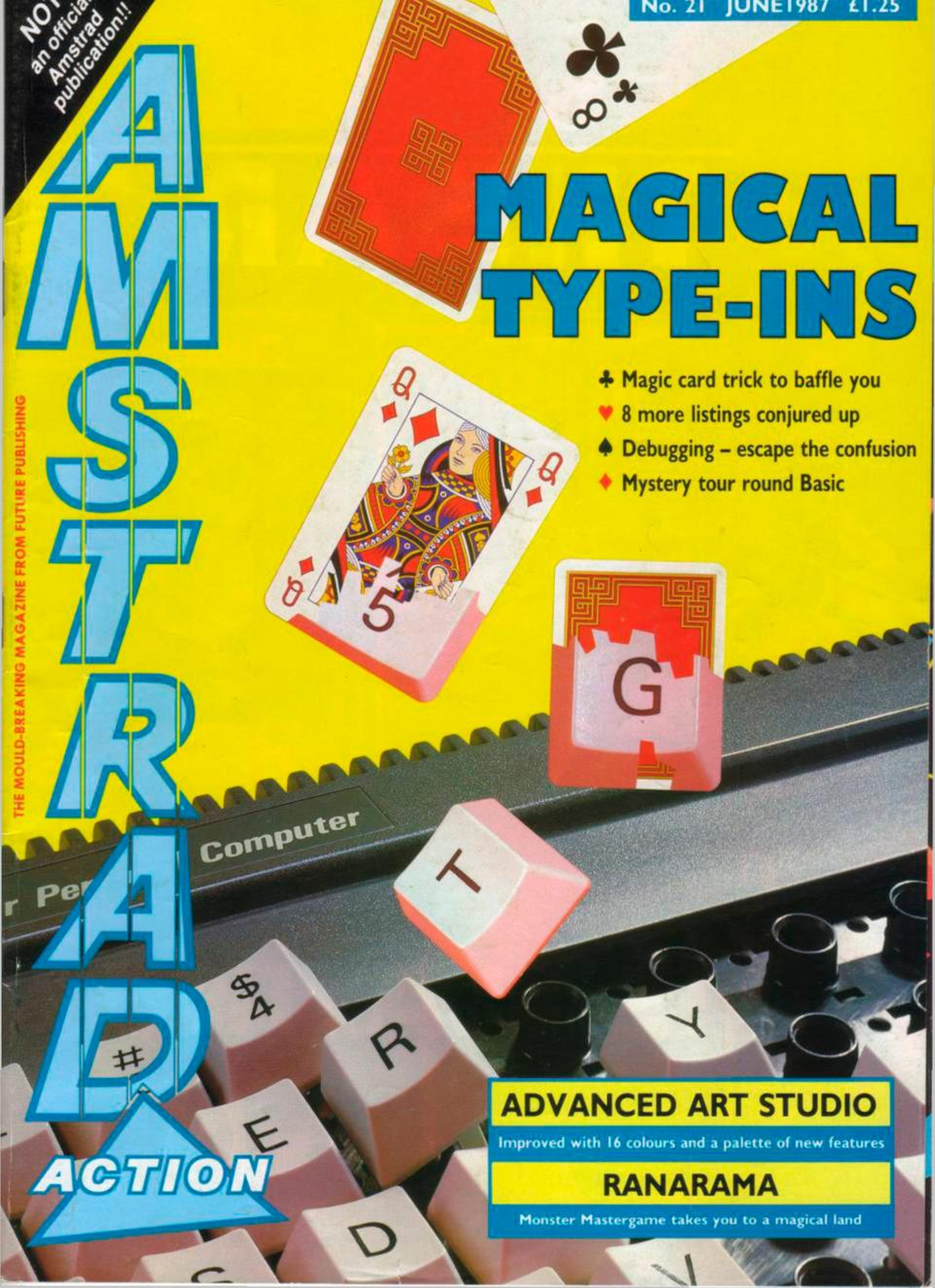
BRITAIN'S LEADING MAGAZINE DEVOTED TO THE AMSTRAD CPC 464, 664 AND 6128
No. 21 JUNE 1987 £1.25

NOT an official Amstrad publication!!

AMSTRAD ACTION

THE MOULD-BREAKING MAGAZINE FROM FUTURE PUBLISHING



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- ♣ Magic card trick to baffle you
- ♥ 8 more listings conjured up
- ♠ Debugging – escape the confusion
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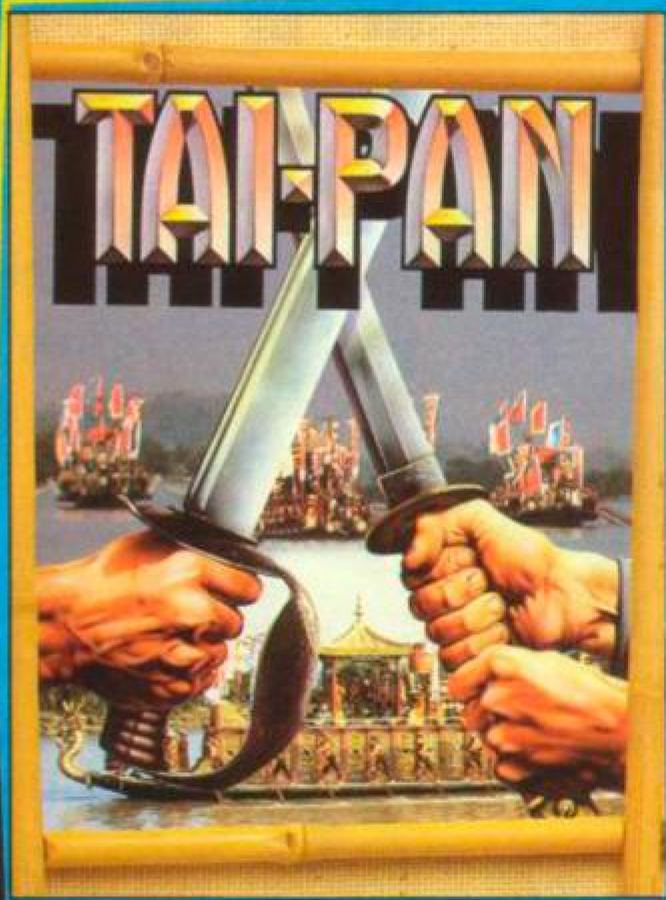
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Improved with 16 colours and a palette of new features

RANARAMA

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THE ART C





From the author of SHOGUN, James Clavell, comes **TAI PAN** and a terrific new game packed with action and stunning graphics. TAI PAN is the exciting story of a man and an island. Become Dirk Struan – a pirate, a smuggler, a manipulator of men achieving riches beyond imagination. Enter a world of blood, sin, treachery, conspiracy and murder – a game of Grand entertainment!



Authors of No. 1 Blockbuster, Batman, Jon Ritman and Bernie Drummond present **'Head over Heels'** – Hi! My name's Mr. Head. Some say I'm the one with the brains but I don't think my flat footed friend would agree. I'm a real sharp shooter, but without my pal Mr. Heels I'd get nowhere fast . . . or slow! I can jump like a flea and even glide but Heels is the Daley Thompson of the two of us – he's FAST! Together, if we can find each other, we really do make an awesome twosome, and that's the only way we can overcome the emperor Blacktooth.



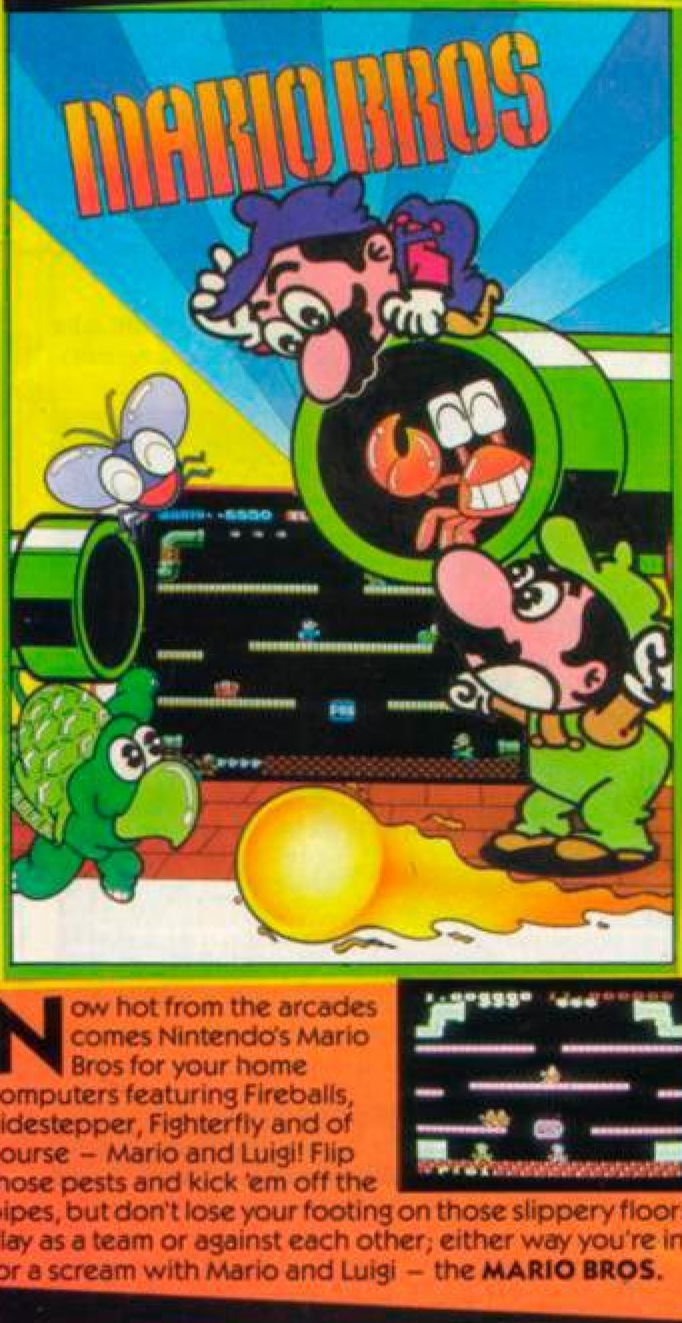
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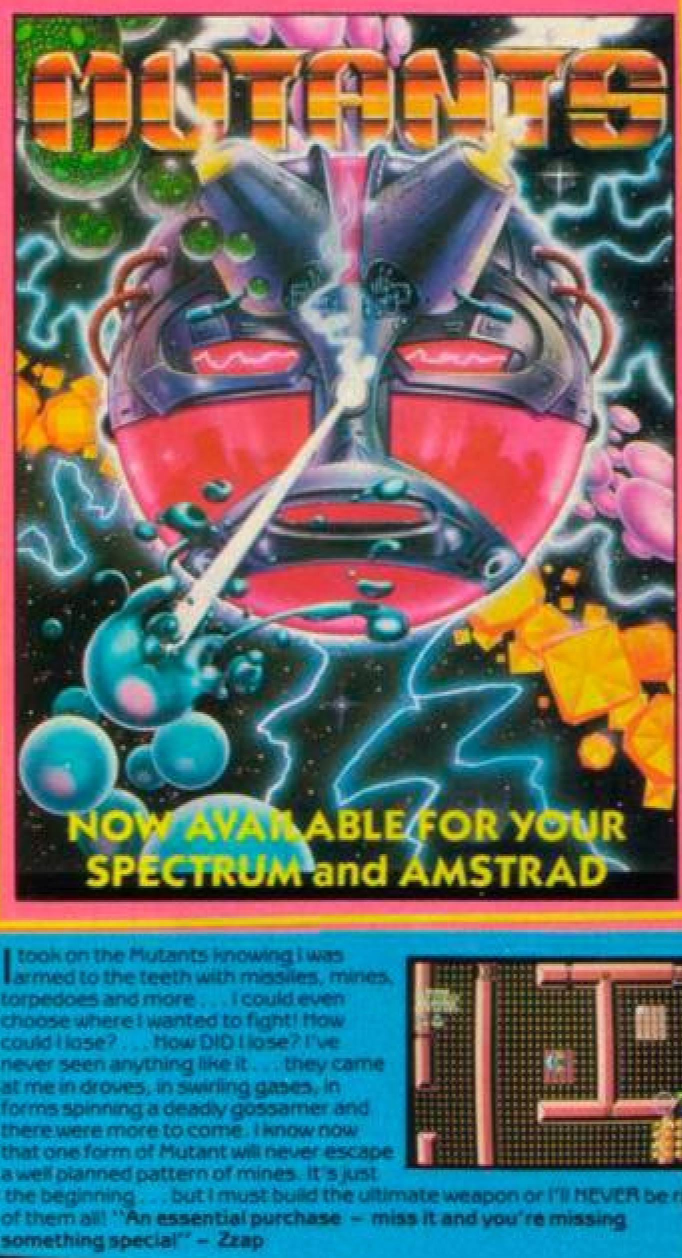
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I took on the Mutants knowing I was armed to the teeth with missiles, mines, torpedoes and more . . . I could even choose where I wanted to fight! How could I lose? . . . How DID I lose? I've never seen anything like it . . . they came at me in droves, in swirling gases, in forms spinning a deadly gossamer and there were more to come. I know now that one form of Mutant will never escape a well planned pattern of mines. It's just the beginning . . . but I must build the ultimate weapon or I'll NEVER be rid of them all! **"An essential purchase – miss it and you're missing something special" – Zzap**



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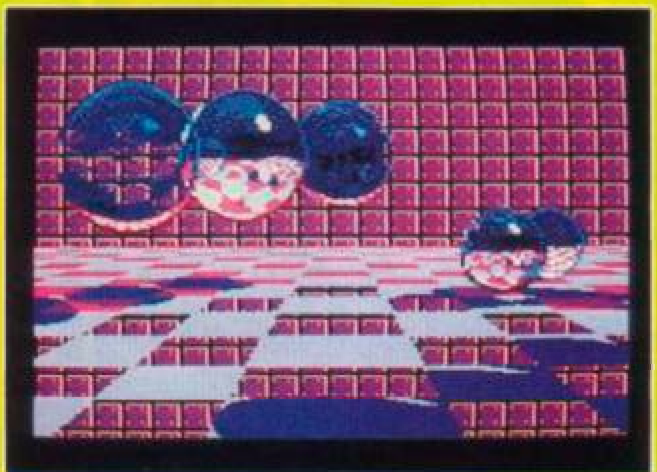
AMSTRAD ACTION JUNE 1987

FRONT END

NEWS ● LETTERS

SERIOUS SIDE

SOFTWARE ● HARDWARE ● PROGRAMMING



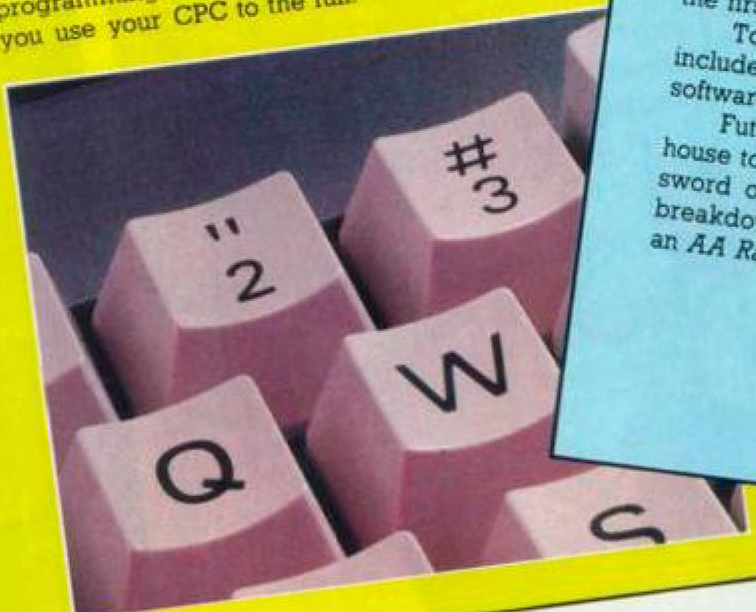
ACTION & ADVENTURE

GAMES ● MAPS ● PILGRIM



INTERACTION

CREATED BY YOU AND FOR YOU



WRAPPING UP

THINGS TO BUY ● BYE

Moving on

There's a lot happening this month, so sit down and hold on tight. The first thing you'll have noticed (unless you're a subscriber) is the increase in cover price to £1.25. We're sorry we had to do it but it's the first price rise since *AA* was launched and in that time paper costs have risen substantially. We hope it doesn't damage your wallet too much.

Future Publishing is on the move. The editorial offices are on their way to a new home among the Georgian crescents and spas of Bath. From the first of May we'll be at **4 Queen Street, Bath, BA1 1EJ**. The move has been prompted by the rapidly expanding number of staff and titles: the Old Barn became as tight as a garden shed.

However, the mail-order and subscription departments are staying in Somerton: same old stalls and phone numbers. So any enquiries on special offers, mail-order, subscriptions and so on should be directed to the Old Barn. The new address in Bath is for editorial matters only.

We still think you're getting value for money with *AA*. And to prove it this month, we've got a Type-Ins special, another bumper bundle of cheat modes, a full review of the *Advanced Art Studio*, the first look at *Maxam II* and of course all the new games.

Top of the games pile is *Ranarama*, but the supporting cast includes some excellent strategy games and more impressive software from over the Channel.

Future Publishing's not the only thing that's moving. I'm moving house to Bath as well. Moving house hangs over your head like the sword of Damocles, so don't be surprised if I've had a nervous breakdown by next month. Never mind – I'll just have to become an *AA Rave*-ing loony.

Bob

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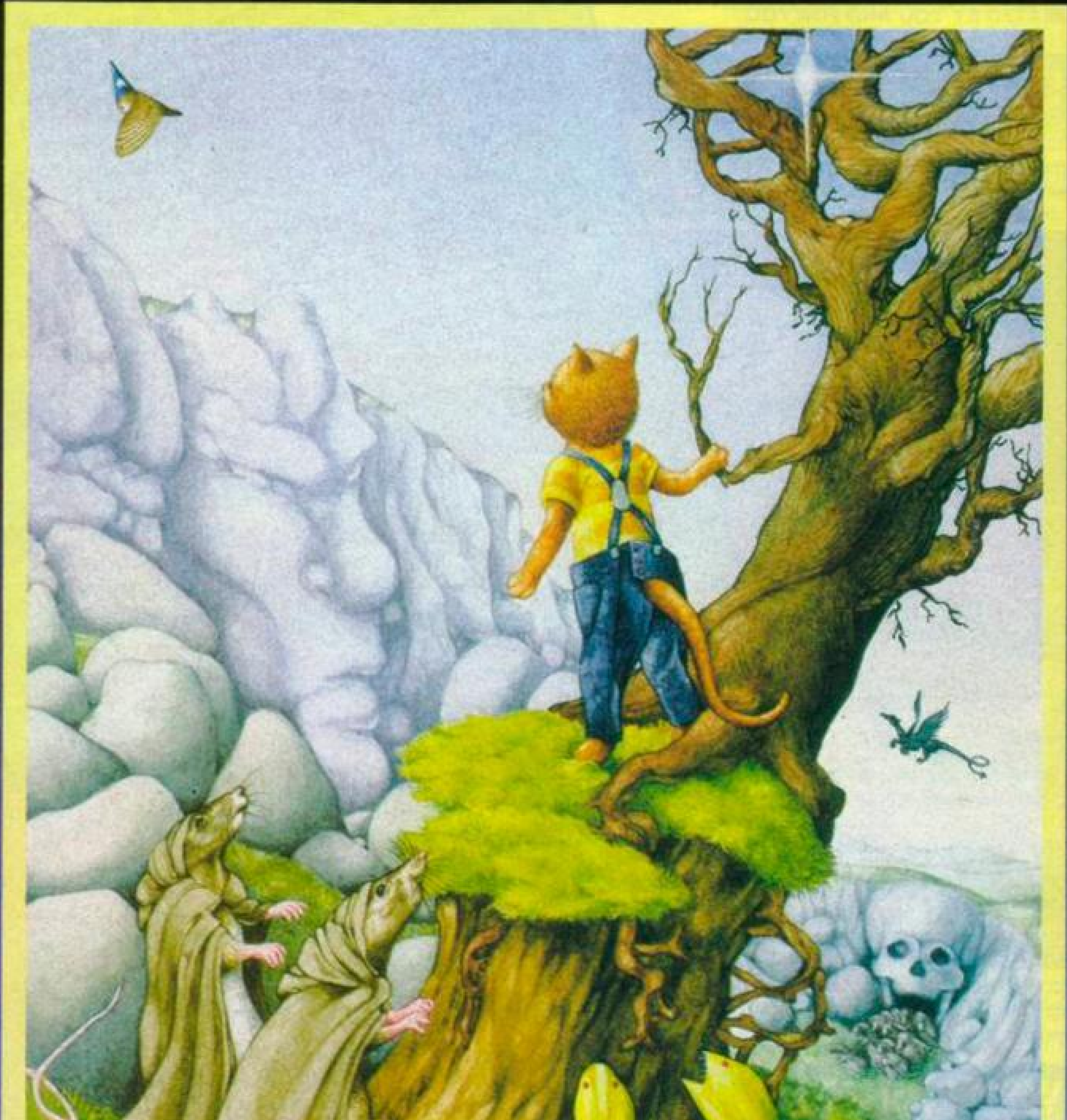
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REACTION

June is bustin' out all over, and so is the Reaction postbag: five pages of your news, views, questions and comments.

We've busted out of the Old Barn too, so you will react from now on to our new editorial address, won't you? It's 4 Queen Street, Bath, BA1 1EJ. Our electronic address stays the same: 045 874 011 on Micronet, 84:txt152 on Telecom Gold. On e-mail please remember to give your name and address. A phone number may be useful too. We're already busting our keyboards to get the July issue ready, so we can't possibly answer all of your letters individually – sorry, not even if you entice us with a stamp. So you are advised not to mix items for other departments such as subscriptions or mail-order on the same piece of paper. *– Jim Nagel, lettitor*

A veritable bug

Has anyone else spotted a bug in *Vera Cruz*? The two separate bits of info about the BMW don't give you the whole numberplate; they apparently do on other versions. So it's impossible to find out the owner from Diamond.

Paul Ansorge
London NW6

Toot suite

This sweet pea on legs gets blamed for everything. Toot should have his own page or corner instead of creeping in along the margin begging for praise. It's not fair that poor Toot gets left out when there is some gremlin causing all the trouble.

Shane Kiely
Mallow, Co Cork

Cover lover & otherwise

Please can you improve your cover designs? Compared with most other computer magazines they look very cheap and homemade. No exciting pictures or illustrations of the Mastergame. Please go back to the days of the good *Starstrike II* cover and the *Ghostbusters* cover (*AA* 12 and 6), not a man wearing black gloves and carrying a penknife.

Barry Marks
Holmes Chapel, Cheshire

Don't jump to the conclusion that it's a man's hands! Don't you think we take our readers' opinions seriously? Remember Sarah Standring complaining (Reaction 19) about the scarcity of the fairer sex in AA?

■ The changes you made to *AA* 18, namely the logos and boxes in Action Test, give the mag a touch of class (not that it wasn't classy before).

Andrew Holmes
Grimsby, S Humberside

■ I think the new look is great! The Action Test pages have always been of the highest quality, but now they are better than ever. Why not go the whole slog and change the front-page title? (And what happened to the messages at the bottom of each page?)

Simon Machell
Wallasey, Wirral

Look below, Simon.

Strange cocktail

I am finding great difficulty in completing the third stage of *Rambo*. Could you send me any information or pokes you have for this game? I'd also like advice on stock-control programs for a public house.

Allan Buddy
Roxburghshire, Scotland

Any original Rambo *tips or pokes we've had we've published for everybody.*

We're posting you a never-reviewed cassette of Amsoft's Stock-aid *(which sounds like a drink itself). Unfortunately it's missing its instruction booklet, but that should be no problem for Rambo. If the printout shows you have a surplus, Allan, Buddy, return the favour: send a lorry.*

Hyper-leapfrog

Have you ever reviewed the DDI1 disk-drive or the Amstrad modem? Have you reviewed the game *1942*?

In February you advertised a game called *Star Raiders 2*. Have I missed *Star Raiders 1*? Surely Electric Dreams isn't advertising number 2 before 1 is launched!

Richard Strait
Woking, Surrey

The DDI1 was old before AA was born. So the question is why didn't it review Amstrad Action? *The Amstrad modem is really the Nightingale, made by Pace but bearing the Sugar badge. We reviewed it in issue 8 and again in the Christmas buyer's guide, issue 16.*

As for Elite's 1942, *"If the software house doesn't send us a copy, we can't review it," was Editor Wade's weary word. We'll get even with Elite by telling you that* 1942 *is coming out on a compilation – wait till then instead of paying full price.*

Part 2 before part 1 really would be an escalation of the advertise-long-before-available hype. But no, Star Raiders 1 *was an Atari game that was never converted to the Amstrad.*

Elite again

What have you done to *AA*? All of the egotism has gone! It is becoming overly technical. It has been straightened out into conformity: the Rave symbol has been changed, all of the titles have been straightened up, hi-scores and the readers' review section have gone. I wish you would put back what you have changed, but I will continue reading *AA* simply because it is the best one for Arnold reviews.

What happened to *Scooby Doo*? I couldn't find any review of it in *AA*, and yes, it is out. I have bought it myself and a good game it is too.

Has the Pilgrim changed identities? Again?

Harry Breach
Bristol

We've progressed from telling how good we are to merely being the best Amstrad magazine. There. Is that egotistical enough for you?

That said, we do miss the occasional game – like Scooby Doo *(Elite again) – despite trying to cover everything. On these occasions, if we do get a game two or three months later, there's not much point in trying to review it as news.*

Whatever gave you the idea the Pilgrim has changed? We're afraid he hasn't. It still requires five interplanetary trans-temporal telepath calls to Phobos to get him to send his copy.

We're abstracted

Your magazine has given me many months of enjoyment and weeks of type-in fun. In return I offer you help in the form of a tape containing a summary of the mag: pokes, type-ins, hints from the Pilgrim pages, games reviewed and their rating. I am prepared to write such a tape every month. If readers send me a blank tape I will send it back with all in tow, so to speak, free of charge.

Philip Stockdale
93 West Acridge
Barton on Humber, DN18 5AJ

Sounds like Philip is going to a lot of trouble to provide a helpful service. Anyone accepting his offer is reminded to enclose return postage, or else not to expect anything back!



"I KNOW THE KEY LETTERS ARE FADING – BUT THIS IS RIDICULOUS"

Incognito alphabet

On my 6128, which I have owned for about 14 months, some of the keys have their letters fading: half the shift key has worn away, for example. Has anyone else had this problem? Is there anything I can do about it before all the letters disappear off my keyboard?

I would like a penpal. I'm interested in machine-code and hacking, as well as hackable games.

Roger Payne
17 Riddell Close
Alcester, Warwickshire
B49 6QP

My E is worn bare (proving it's the most-used letter in English) and D is not far behind. My cursor arrows no longer point, so it's a good thing I know where they are. Learn to touch-type!



Here's one, Simon!

Evergreen nominations

Here are my "evergreens" mentioned in *AA* 18: *Software Star* (Addictive), *Starquake* (Bubble Bus) and *Elite* (Acornsoft and Firebird). The first two I've played on and off since they first appeared on the Spectrum and *Elite* from its launch on the BBC Micro. *Starquake*, in my view, is the zappiest arcade adventure around, even though I've completed both the Amstrad and Spectrum versions. It still brings immense satisfaction to my twitching fingers. Great graphics don't make a great game, they only add to the initial appeal.

Finally, does *AA* have any connection with the greatly missed *Personal Computer Games*? I'm sure I've heard Bob Wade's name somewhere before.

Mike Bennett
Redcar, Cleveland

Bob says your first two wouldn't be on his all-time-greats list, and yes, he and Chris Anderson did both work on the late PCG *before starting* AA.

Made a mistix – once

I am a loyal subscriber to your fab mag, but this month (February) I decided to buy *Amtix* as well.

Could you try to avoid the mistake of printing photographs in the magazine or on its covers as it makes it look cheap. Try to stick to the stylish covers you had for issues 10, 11 and 12.

S Massoudinia
Cardiff

What can we say, o ever-loyal subscriber? They say a picture is worth 1,000 words.

Bridging a gap

AA 19 page 34 (the software jungle) was really an exclusive special. I especially enjoyed reading how four old hands took off. My main interest centred on programmer David Jones, author of Mastertronic's *Knight Tyme* series and the way he goes about creating a new game.

This all made me wonder if an offering for bridge clubs would be worth a thought. The game is played worldwide, and every club has to score events several times each week – a time-consuming chore. The program *Mitchell* does this all in half an hour or so – the keying-in time basically. It also calculates and prints the appropriate English Bridge Union master points (another administrative bind).

A gap seems to exist in the serious marketing of bridge help programs for Amstrad users. Sooner or later someone is going to corner the sales and ongoing development. Already I have a circle of bridge clubs using and developing Amstrad programs. Disk and printout are available from (0742) 30 7555.

Bernard Brighton
30 Ranmoor View
410 Fulwood Road
Sheffield, S10 3GG

Ammy isn't the navy

What happened to *Space Harrier* on the Amstrad? Why did they make it with vector graphics? Have you seen it on the Commodore? It's brilliant!

Patrick Connolly
Clogherhead, Co. Louth, Ireland

"I like it the way it is," says Bob. "I don't care what it's like on the Commodore."

Morally shocking

I today received a copy of *Shockway Rider* for my CPC 464. After spending five minutes discovering what the game is like, I returned it to Shekhana Computer Services with an exhortation not to sell any more copies.

I could not, in all conscience, play it. I found the game concept immoral, disgusting and barbaric and the graphics sickening in their realism. It is a bad advertisement for our culture and a very poor example to our youngsters.

I was truly *shocked* when I saw it, and I am deeply disturbed that FTL allowed it to be marketed. Most computer games escape the charges of immorality and barbarism because of the strong element of *fantasy* and lack of realism which they contain. The realism of *Shockway Rider* is, I fear, an invitation to imitate the violence and lack of concern for humanity which is already far too prevalent in Britain.

I have written to FTL to air my views.

CR Wright
Wolfson College, Cambridge



"C. WRIGHT, WOLFSON COLLEGE, READING AMSTRAD ACTION"

Save your stamp

In *AA* 19 there was a poke for *Mutant Monty*. My version is the original one (not the one on *Computer Hits 2*) and it is on disk. Please can you adapt this poke to my game?

Frank Swinton
Plymouth

If someone sends in the poke, we'll print it, but we're afraid we can't produce them to order – nor answer individually all the hundreds of other questions we get about games – as well as produce next month's megamag. Not even if you bribe us with a stamp, Frank.

Getting serious

I am a new(ish) reader, having discovered *AA* only at Christmas. I was getting fed up with the other two Amstrad mags I was taking – more and more business pages it seemed every month. I've not renewed my subs to either. I'm glad to see from your letters pages that I'm not the only old fogey subscribing to *AA*. I'm interested in what you call the serious side. I cannot for the life of me understand what anyone over the age of 12 can see in the endless succession of dodge-and-zap-em games. I enjoy the occasional text adventure. I've read quite a few articles and books on writing adventures, but none has been as enlightening as the Pilg's present series.

I know it's fashionable to sneer at *DR Logo* but I first fully understood recursion only after writing some recursive programs in Logo. Sadly, Amstrad's *Guide to Logo* is without doubt the worst computer book on which I've had the misfortune to fork out a sizeable portion of my pension. Is there any chance of you persuading one of your resident whizkids to do a series on (not turtle graphics, I beg) things like list-processing and other artificial-intelligence applications?

Dennis Francis
Reading

Slaying the dragon

I cannot stand it any more. I have just come out of a school club-type thing as the most terrible argument has taken place. It is all this petty computer rivalry – the people concerned own Spectrums, Commodores, BBCs, Plus 4s, Dragons (ha!) and of course Amstrads.

Of course, being a fourth-year, I can duff up the younger kids if they talk nasty about Arnold. But the ones that get right up my nose are the wingeing Commodore owners: they punch anyone who insults their "oh so very nice piece of plastic".

Why go on about such a petty thing? All computers have their good and bad points. (I don't know about the Dragon, though!)

Kenny Moorhead
Leeds

Rift and ring

Koronis Rift is for disk only, according to the Rave in *AA* 19, but another, not so brilliant, mag said it was out on cassette as well. Your mag says the price for *Killer Ring* is £7.99 on cassette, but the other mag says it costs £8.99. You say it is produced by Ariolasoft, but the other says it comes from Reaktor although the pictures of the game looked almost the same. Have you made a big boob?

Ian Cairns
Scotstoun, Glasgow

One boob each and one draw. Koronis Rift *is definitely disk-only, but the price of* Killer Ring *should have been £9 (minus the customary penny). The pictures you saw, Ian, were more than "almost" the same, for Reaktor is an Ariolasoft label.*

Tootball game

In your review of *Footballer of the Year* (*AA* 17), where did you get that screen from. I have the game and the picture is completely different.

Paul Milcheson
Bognor Regis, W Sussex

The screenshot was meant for Handball Maradona. *Toot is sorry about that, but thought Maradona was a football player.*

■ Can you tell me why the *Contraption* poke (Cheat Mode 17) was printed twice? Also where is the end of Timothy Dowd's letter about *Fourth Protocol?* All I can see is "Now you have to hurry, change icons and use your wire-cutters: *cut the* ...". I bought that cassette and got stuck, so I found his solutions very helpful. Now I'm stuck again. Help!

Paul Page
Solihull, W Midlands

Sorry, Paul. Toot was peckish again, but perhaps we can forgive him because the final sentence read: "Cut the red wire ..." So he did. Did a very neat job of it too; used a scalpel.

You'll notice the Contraption *listings were identical except for line numbers. Why didn't Toot munch one of these instead?*

Exactly 33 characters of our OCR-B typeface will fit across our Cheat Mode column (10 ems = $1\frac{2}{3}$ inches). So we have the hassle of splitting long lines and then renumbering, unless the author will please write them short-and-easy-to-debug to begin with.

Stop!

I finished all eight levels of *Druid*, but on level eight stops the game. You can't do anything more, while the manual says you have to de-

By popular request...

stroy the princess. Is there more to do than completing all eight levels?
M de Clerck
Rotterdam

Level eight is the end of the game. But methinks you're reading a Dutch edition of the manual. Please don't destroy the princess.



"THERE'S JUST SOMETHING ABOUT HIM I'M NOT QUITE SURE ABOUT..."

Small ads for sale

I recently won a competition in my local paper, and the prize was a starter set of Red Boxes (as reviewed in *AA* 17). But unfortunately I have no need of the Red Boxes. Could you start a page where readers could advertise hardware and software which they would like to sell?
Robin Brown
Inverness

Lucky you! We had just decided to open a small-ads page as a reader service, when your letter arrived. Here's your ad as a starter:

For sale

Red Boxes starter set (to control home appliances and detect movement), can be used as a burglar alarm. Will sell for £90 ono. R Brown, 13 Forbes Place, Smithton, Inverness, IV1 2NN. ☎ (0463) 79 1641

In future you'll have to fill in the form and forward the fee – and this will go for would-be user groups as well; Reaction is getting overloaded with them. To avoid abuses, we will not publish ads wanting to swap or sell software (other than programs you write yourself).

Anyone seen my Morris?

Activision's *Little Computer People* on the 6128 is brilliant. I made a back-up copy – which I do for all my games – then loaded and waited for about five minutes before somebody moved in. He had a good look around the house then went away and came back with his dog. He typed a letter to me and signed it "Morris."

Well, Morris and I had some good times together playing cards, and Morris would often play his piano. To cut a long story short, I corrupted the disk, so I made another copy and loaded it. Lo and behold, Morris had gone and was replaced by Bruce. I made several copies and had Marcus, Randolph and Rusty, which now proves there is more than one LCP on my 6128.

If another reader has a Morris (he looked like Jimmy Greaves – well, I thought so) please let me know, as I had grown quite fond of him.
Dave Wyatt
Bristol

Thanks from Gramps

Thank you for your prompt attention to the back issue of *AA* that I ordered at the January show. I find it refreshing to do business with a company whose employees are so pleasant and helpful.

I purchase your magazine every month and value it highly, the format being good and easily understood by a novice at computering like myself. Although I'm not as venerable as the Old Barn, I could probably give it a run for its money. Another reason is Adventuring with the Pilgrim, which gives me a head start with the grandchildren when it comes to the fantasy world of *Robin Hood, Bugsy* and *Lord of the Rings* – providing my wife is not watching! I assume I am not alone in what my wife terms my return-to-childhood syndrome.

Would it be possible to give a few more reviews relating to hardware?
GE Cole
Norwich

Wonder-maths

I wonder whether any readers would be able to write a program to generate a graphic display of something called the Mandelbrot Set. I saw this on a BBC Micro while on a visit to the mathematics department of Glasgow University and have read about it in various magazines: it is certainly worth seeing. Apparently it is based on complex numbers (the square-roots of negative numbers), has the properties of fractals, and is one of the most complicated things in modern mathematics. I think it was discovered only in 1980. With the advent of the transputer and parallel-processing machines it can be drawn up fairly quickly, but I do not know how long it would take the humble Arnold to generate it.
Owen Cunningham
Livingston, West Lothian

Save Toot, we plea!

How could Nicholas Hill (Reaction 19) be so cruel? How would *he* like his legs ripped off, or how would *he* like to be tortured? We have drawn up a petition to save Toot. It seems to me everyone takes it out on poor Toot. What bright spark nicked the page-bottoms? Don't blame Toot.

And can someone tell me how old Bob Wade is? 20? 21? 22? 23 even?

Have fun unrolling the till roll. You'll be surprised how much mess it can make. *Please* read the message at the end. And what do you do with all the letters you receive? Throw them away?

I agree with Sarah Standing (same issue) who said not enough females write to you.
Lisa Monteiro (age 14)
Southampton



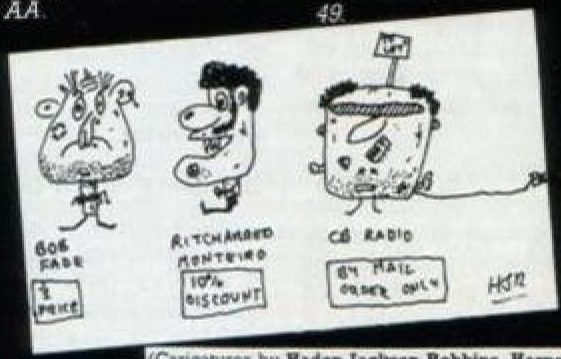
Claire Stocker, Kerry Lodwidge, Vanessa LaLanne, Steph Lane, Boggy, Emma Attree, Sarah Hayward, Val Holmes, Rik Holmes, Pat Holmes, Lyn Holmes, George Michael lookalike, Jade Yeomans, Niki Inman, Clair Borer, Lindsey Hillyear, Katie Ayres, SN Mayley, Ginette McWilliams, Lisa's French teacher Miss Ames, Rebecca Bonnett, Sarita Riley, Niki London, Sam Simpkins, Mandy S, Mandy L, Kev Cresswell, Dave P Harey, Cara Boyle, Anjna Charda, Barbara Simpson, Anjela Davie, Stacy Cotton, RP Cotton, Kim Fadden, Tratty, Anna Florey, M White, Lisa Kneller, Lena Burton, Mrs Cotton, Becki's mum, Claire Lawson, Alison Davies, Whiskey (my cat), Clair Willard

Petition

Please please please please please please *[8,730 times on approx. 543 feet of ticker-tape]* don't let Toot lose his legs and don't sack or torture him. Oh yeah, send me some signed photos of you lot. How old is Bob Wade? Excuse the writing. I'm leaning on a very thin issue of *AA*.

Bloot Toot? He's too cute. And too quick. Look what happens to those who try.

The age of Bob's body is the product of the first and fifth prime numbers. His brain is 14, going on 49.



(Caricatures by **Haden Jackson-Robbins, Harpenden, Herts**)

Two moans re fab mag

Your mag is fab. But I have two complaints:

1 When my subscription ran out the only reason I knew was that I got no magazine, and I therefore had extreme difficulty getting a copy from the newsagents. I was hoping that you'd let me know with my last copy so I could have re-subscribed without all this hassle.

2 In your "new-look" mag there are only 84 pages as opposed to the usual 100. I know that expenses have to be spared, but 16 pages in one foul swoop is a bit much!

Subscription form and cheque enclosed.
Daryl Weaning
Milton Keynes

Apologies for failing to remind you, grovelling excuses about workload etc. When you are down to two issues, the subscription system now prints a reminder on your address label.

Or (advt.) could we suggest a lovely AA binder? You can see at a glance how many of its 12 slots are still empty.

It wasn't the new look that affected the number of pages, but the usual post-Christmas lull in the advertising world. Expect to see AA grow with the spring!

Title teaser

Your Cheat Mode book title is made up of letters taken from various computer games and companies. For the people who haven't worked it out here is the solution: *Super SoCcer, THey Stole a Million,* DurEll, **A**??, *GaunTlet, Magmax, KOnami's Golf, DanDy, MarblE Madness.*

The A leaves me completely baffled. I spent a good hour looking through the last five issues for it. So please put me out of my misery and tell me.
Bernard Carrington
Forres, Morayshire

FrAnkie Goes to Hollywood.

nay, by incessant clamour...

Penpals, please

- **Vangelis Rokkas, 10 Kourmouli Street, Kastella 18533, Pireas, Athens, Greece** – age 19, has done electronics for nine years
- **A Khan, 142 Broadstone Way, Bradford, BD4 9BU** – has a 6128
- **Simon Forrester, 15 Halcroft Rise, Wigston Magna, Leics, LE8 2HS**
- **Tony Pigram, 7 Springfield Park Parade, Chelmsford, Essex, CM2 6EF** – age 14
- **BW Ritchie, Lavant Park Farm, W Lavant Chichester, W Sussex** – age 12, has 6128, wants ID card in *Knight Tyme*
- **Frank McArdle, 31A Fr Murray Park, Dundalk, Co Louth, Ireland** – age 9, has 6128 (and very neat handwriting!)
- **Fondas Zonia, 25 Parkthorne Rd, Streatham, London, SW12 0JN**
- **Kenny Moorhead, 101 Kentmere Ave, Seacroft, Leeds, LS14 1BP** – age 14½, interested in programming and games
- **John Colbron, 7 Arthur View Cres, Danderhall, EH22 1NG** – has a 464
- **Ivan Keane, Ennistymon, Co. Clare, Eire** – wants to correspond with penpals "male or female from France, Britain, Ireland that are interested in adventures, sport simulations, arcade games and American football."
- **Gary Shuttleworth, 4 Marine Parade, Appledore, Bideford, North Devon** – age 15 and keeps getting read error B

Tactical question

Every other mag has its regular war-games feature, so why does *AA* overlook us computer tacticians? The pitiful six-liner on the *Annals of Rome* (*AA* 17) was hardly enough to be noticed.

John 'The General' Reynolds
Leamington Spa, Warwickshire

As I write this, Legions of Death *and* Vulcan (the Tunisian Campaign) *have just come in. Major Bob is marshalling resources: will we deploy a mono-colour spread this month on them? Look and see.*

Check, mate

I hope to set up a computer dating agency, Compudate, which will be entirely functional through the CPC 464. I seek at least 50 *AA* readers (over 18) who could send me their name, address, list of hobbies and a small photograph of themselves, and they will be considered for use in the cassette free of charge. Every enquiry received will be answered, and news of when the product is finished will be sent to you.

David Shaw
21 Balfour Court
Kilmarnock, Ayrshire

An unromantic detail to check out, David: the Data Protection Act. Ask your post office for an info pack.

Bye-bye Bazooka Joe

I have been a reader of *Amstrad Action* from issue 2. Your reviews are informative and objective and your reviewers sincere, rather than egotistical. My one criticism as a proud 6128 owner relates to the lack of coverage of CPM Plus software in *AA*. Perhaps a "Good software file" could be adopted, as in your sister journal *8000 Plus*.

Nevertheless I have overlooked this shortcoming and recently subscribed to *AA*. The only previous time I felt impelled to subscribe to anything was in 1967 when I joined the Bazooka Joe Bubble Gum Club. It has to be said that *AA* and the marvellous free *Spindizzy* disk are proving to have a greater staying power and satisfaction than the comic and free siren ring from Bazooka Joe.

Chris Whitfield
Wallasey, Merseyside

Getting it right

I *do not* own a Quickshot II Turbo! I *do* put the date at the top of letters! And I *don't* nick other people's pokes from your magazines and send them to others.

I don't have any bother with the Telecomsoft (Rainbird, Odin) loading system, but I do have a problem with the Speedlock system and the loader used on Gremlin's *Way of the Tiger* and with the good old Amsoft slow loaders. And before you say anything, my 464 cassette deck is not faulty. Realtime's *3D Starstrike* has the worst tape quality of all the cassette-based software I have, but it remains the most reliable loader of the slow-loading games.

When will software producers get it right? I know that you will always get a duff cassette within a batch, but there must be a way of testing for this. I just hope the new digital cassette (featured on *Tomorrow's World*) holds the answer.

JR Gigney
Cold Norton, Essex

Building with boulders

J Young in *AA* 18 asked if there was a construction kit for *Boulderdash*. Well, there is, up here in Aberdeen anyway.

Two months after receiving *Starstrike II* (subscription game) the first side doesn't load. Side two loads okay. Will I send it back to you or just load it off side 2?

After buying *The Apprentice* I tried to poke in the poke from *AA* 15, but it doesn't work. Halfway through loading, the computer resets itself. So what do I do?

David Flett
Aberdeen

We've never seen a construction kit for Boulderdash. *Anyone like to send us a review copy? / Just load* SS II *off side 2 – that's why tapes contain two copies. / The* Apprentice *poke is correct as printed. You have probably made an error typing in the data.*

Cassette hassles again

When I buy a cassette marked simply "Amstrad" no one can tell me if it will run on a 6128. Two tapes I have bought recently have shown every sign of loading and have responded to the first keystrokes but that is all. *Gauntlet*, for example, lets me move forward from the first text screen to the instructions for selecting a character, but no key will let me move on to do so. The only key with any effect is the spacebar, which only changes the border colour. I cannot tell whether I have corrupt tapes, incompatible tapes or if the computer itself is at fault. Can you help me with these and to pick compatible tapes in future?

George Young
Bearsden, Glasgow

It sounds as if something's wrong with your tape or your tapedeck, George. All recent CPC game releases (in the past year) work on all models.

Publishing eternal life

You've got it wrong, *AA*! With reference to Steve Seager's letter "Eternal life" (Reaction 18) games *should* have an infinite-lives option. I use my 6128 every day to assist me with my job. Occasionally for light relief (when the wife isn't looking) I load *Who Dares Wins II* to blast away my frustrations. However, I have neither time nor skill to get past the second screen on level 2. (Cries of disbelief.) Now that's not much value for £15, is it? Please don't become the Mary Whitehouse of the computer world! You don't have to watch red-triangle films on Channel 4, and if you want the challenge you don't have to use the infinite-lives option on a game.

Do you know where I can get an infinite-lives poke for *WDW II?*

Nigel Shaw
Solihull, W Midlands

We won't mention the scoundrel who this month sent us WDW *pokes he'd copied from another mag. But there was a map in issue 8 and playing tips in issue 10. They're reprinted in the Cheat Mode compendium that goes free with subscriptions – or see special-offer pages.*



"I JUST WISH I'D FOUND THAT INFINITE LIVES POKE"

The rejection game

Some time ago I had a rather novel idea for a new game. It was an arcade adventure in the mould of *Heavy on the Magick* and *Dun Darach* although the gameplay was intended to be radically different. I spent some four months drafting up storyboards, writing a small novella and converting music scores onto a sound-planner sheet.

Ecstatic with my supposedly tremendous achievement I sent a sample of my work to a software company which shall remain nameless. I was promptly sent a brief and disappointing reply: "I advise you to see your school computing teacher." As you can imagine I was pretty peeved about this.

Recently Bob Wade had a stab at the software house in question for ripping off arcade games and throwing us third-rate versions not worth the tape they were recorded on. He went on to say they thwarted the production of original games. How true.

Not 18 months ago they were paying for concepts like mine. It was small-time programmers like John Gibson and DH Lawson with small-time concepts like *Molar Maul* and *Ah Diddums* that got home computing its good name. I do feel it's fast deteriorating.

Adrian McGivern
Dorchester

Lots of famous authors frame their first rejection slip and have a drawer full of others. Try another software house, Adrian.

Disk interrogatives

Another magazine said disk-drives are now £99 for the Amstrad 464. Is this true?

Can I get *Hitch-hikers Guide* and *Leather Goddesses of Phobos* for a 464 with disk drive but without memory expansion? Are disk-game prices going to drop following the drop in disk prices (£5 down to £3)? Are there any good disk-only or disk-improved games on the way?

Martin Cleave
Ipswich, Suffolk

Second drives for the 464 can be bought for the price you quote, but first you need a first drive. And that costs more because it includes the controlling interface.

Most Infocom games now suit all Amstrad models with disk, without extra memory. See Reaction 18.

The trade price for three-inch disks is now down to around £1.60, and with the launch of his Spectrum Plus 3 in the autumn, Mr Sugar intends to get it further to £1. Meanwhile, the fiscal adepts patiently explain to us laymen that software publishers get only 40% of the retail price, so any differen-

of those with good eyesight

tial will be multiplied by 2.5 as wholesalers and retailers add their margins.

Few games yet take full advantage of disk. You already know about the Infocom adventures, and we reviewed the disk-only Koronis Rift *in AA 19.*

■ When I have completed *Sorcery Plus* part 1, it states that practice mode is now available. How to obtain it? Is it worth spending a long time completing part 1 again and again and then dying in part 2 within one minute?

Can you advise me on choosing one from *Tau Ceti, Starstrike II, Heartland, Get Dexter, Elite* and *Doomdark's Revenge*?

Is there any game that requires both sides of a disk? How much more space does a three-inch disk have compared to a 5¼? I have seen one game which required eight sides of a 5¼-inch disk.

Apart from *Gauntlet* and *Sorcery*, what else can save the high-score table or has extra features? It is not worth spending £5 more for a disk version if it is the same as the cassette.

I often praise the Americans for their disk-only games, for example Infocom. I am very surprised that no Lords or Ladies can solve one Infocom game.

And finally, thanks for your wonderful mail-order service.

Derek Wong
Thornton Heath, Surrey

To get Sorcery's *cheat mode, you must first complete section 1 of the game. Hold down C while you press Fire.*

We wouldn't presume to tell you which of these great games to pick. You'll have to read the reviews and choose for yourself.

Different computers store data in different formats, but in general you can't get more than 200k on one 40-track side, whether three-inch or 5¼ or even the ancient eight-inch size. Faster loading is the main joy of disk over cassette.

Unfortunately, Infocom players are comparatively rare on the CPCs – the games cost at least £20 and require disk drive. However, there are cheat books on the market for these games.

Our Sue Taylor thanks you for thanking her!

Praise for Electric Studio

I would like to inform readers of my recent excellent back-up help from Electric Studio. I had bought the tape-based ESP light-pen and was very pleased with it, but following the purchase of my 464 disk-drive I found the only way to continue using the light-pen was constantly to swap the two interfaces, which would obviously soon wear out the board's edge-connector. And so I wrote to Electric Studio for help.

Within a week they sent me an upgrade to a disk-based light-pen system. Unfortunately this was faulty and I returned it. By return of post I received a fully working disk-based light-pen, which I and the children are again using. I can fully recommend both this pen and the company for its excellent back-up help.

John Wright
Solihull, W Midlands

■ On reading your Christmas article on light-pens I decided it was the Electric Studio one for me. However, for two months I tried to find a shop which sold it. It wasn't until yesterday that I learned the truth: Electric Studio now sells only by mail-order. I was disgusted. Why weren't we, the consumers, told about this? I have just finished writing off to Electric Studio telling what I think about this affair and ordering a light-pen.

I have a French penfriend who also has a 464. When my mum went to France everything there was behind – no computer shops.

Please print this letter to show the answer to other people who were trying to get a light-pen from Electric Studio and to give me a bit of fame.

Stephen Parkinson
London N16

Didn't you see Electric Studio's address in the Christmas buyer's guide (AA 16)? We did say that hardware and serious software is often not so easily available in shops as games. That's why we include addresses and phone numbers.

Steve, do you think the late Andy Warhol meant Future Publishing: "In the future everybody will be famous – for 15 minutes"?

Sound stuff

Is there any software which contains a selection of tunes on tape which can be loaded and listened to by themselves? Any chance of doing a "best sound" article one month, relating to software game tunes and effects?

Andrew Earmuff
Tain, Ross-shire

Amstrad used to market a range of electronic ... er ... stuff designed specifically for music.

Plug in and print

When I shell out money for my DMP 2000 printer, can I plug in and start printing as soon as I get home, or do I need an interface?

J Anderson
Addingham, Ilkley, W Yorks

All you need is a ribbon cable (supplied with the printer) and paper.

Helpline

Yet more eager Amstrad experts are joining the *AA* Helpline, ready to offer help to readers having problems.

If you want to offer help, just send us your name, address, phone number (say so if you don't want it to be printed) and subject on which you want to help. Please write on a postcard or the back of a stuck-down envelope, to help us keep things sorted out. Send to: **Helpline, *Amstrad Action***, at the address on the Line-up page.

If you are asking for help, make direct contact with the appropriate Helpliner – don't harass your ever-lovin' (but harassed) editor. By post, you must include a self-addressed stamped envelope for the reply; otherwise you won't get one. And if you telephone, stick to socially acceptable hours!

■ **Cameron Kane** of Glasgow regrets that due to work pressure he has to withdraw his offer last month to help.

tape-to-disk transfer, infinite lives, maps, adventure solutions, French games, Amstrad program guide
Phil Maxfield, 40 the Brow, Brecks, Rotherham, S Yorks, S65 3HP ☎ (0709) 54 5055

Basic programming (mainly utilities but some games)
Mark Bonshor, 4 Stoop Lane, Quorn, nr Loughborough, Leics, LE12 8BU

music, keyboards etc (retired professional organist)
Mr W Dallywater, 7 Hillman Dr, Inkersoll, Chesterfield, Derbs, S43 3SW
☎ (0246) 47 3056

Basic programming, useful calls and pokes, hacking, tape-to-disk, *Melbourne Draw*, supersprites, repairing joysticks, tape loading, Basic scrolling messages, sprites in border, ripping out title pages, music and effects from games
Carl Barker, 38 Lyndon Ave, Blackfen, Sidcup, Kent, DA15 8RJ

Basic, Logo, Laser Basic, CPM, Fig-Forth, simple machine-code, *GAC*, disk or tape loading, tape-to-disk
Edward Reid, 157 Ladyloan Ave, Drumchapel, Glasgow, G15 8RX

bridge clubs – scoring on *Mitchells*, aggregate and Howells, name and address lists, library books, master points (calculation and certificates) – all CPCs using CPM for *Masterfile* and *Superscript*
FB Brighton, 30 Ranmoor View, 410 Fulwood Rd, Sheffield, S10 3GG
☎ (0742) 30 7555

Basic programming, printing problems (on DMP 2000), loads of games, pokes, maps, type-ins, machine-code
Guy Sanders, 270 Willesden Lane, London, NW2

any aspect of writing a fanzine
Richard Hannah, 48 James St, Helensburgh, Strathclyde, G84 8XG ☎ (0436) 3310

Basic, sound, graphics (animation and collision detection), interrupts, tape and disk filing, printer commands, *Protext* (will print listings for 35p + 3p/page + sae; screen dumps for 75p + sae; phone for details) – 464
Gavin Manning, 20 Windsor Rd, Wanstead, London, E11 3QU ☎ 01-989 8843

C&G *747*, HNC Computer Studies, serious users
John Wharram, 61 Silver Crescent, Chiswick, London, W4 5SF

machine-code, CPM, hacking – 6128
Tony Hoyle, 11 Dorset Rd, St Annes, Lancs, FY8 2ED ☎ (0253) 72 7368

Basic, machine-code, especially graphics – 464
PJ Higginson, 194 Turton Rd, Bradshaw, Bolton, Lancs, BL2 3EE ☎ (0204) 58907

Basic, some machine-code (will print listings for 50p + 5p/page +sae) – 6128
Andrew Smith, 5 Station Rd, Foggathorpe, nr Selby, N Yorks, YO8 7PU ☎ (0757 85) 540

Basic, simple machine-code
Duncan Ellis, 6 Clifton Terrace, Ilkley, W Yorks, LS29 8ED

Laser games, assemblers, firmware
Martin Packer, 393 Whitton Ave East, Greenford, Midx, UB6 0JU
☎ 01-935 6600 x4283 or 01-423 3452

Spellbound, Eidolon, Dragon's Lair
Scott Miller, 7 Inverness St, Drumoyne, Glasgow, G51 4EW

CPM stat, DMP 2000, Cobol, Nevada Cobol, Turbo Pascal, Locomotive Basic, colours from Basic, disk to tape, disk to disk, *Tasprint*, databases – 464
Allen Reavie, 22 Mourneview St, Portadown, N. Ireland, BT62 3AW

machine-code programming
Jim Tripp, 24 Orchid Close, Taunton, Somerset ☎ (0823) 56492 (before 5pm)

machine-code, Basic, Logo, CPM, graphics, sound, most CPC games
PJ Cook, Prestel 011 110 750

research and development of games ideas, copyright, production, marketing and promotion and (on occasion) financial backing
Jeven, Tigress Designs Ltd, 25 Burmester Rd, London SW17 0JL ☎ 01-946 7870

tape loading, using CPM, Minerva database, *Tasword/Taspell 6128, Art Studio, Tascopy, Multiface 2, WordStar, AMX Pagemaker, Planit, Discovery Plus*
Mr R Cope, 171 Honiton Road, Exeter, EX1 3EP

programming (Basic, some machine-code)
Jeffrey Hunt, 2 Deweys Way, Gillingham, Dorset, SP8 4BW

Batman, Druid (use map locations from *AA* maps)
Darren Roofe, Lyndhurst, Station Road, Middle Drove, Wisbech, Cambs, PE13 8JP
☎ (0945 73) 276



AMSCENE

Monthly update on what's new on the CPC scene

The way ahead

Activision has several major software titles coming out in the next few months.

Bureaucracy on the Infocom label is imminent. Written by master-of-the-trade Douglas Adams (author of *Hitchhikers Guide to the Galaxy*), it leaves you buried under a pile of red tape. You are off to Paris for a holiday. Your boss has kindly mailed you a money-order. As soon as it arrives you can leave. You're no stranger to the postal service. Unreliable. That's not all that will hinder your journey. Bureaucratic banks, annoying airports, cantankerous characters and the Zalagasan jungle will all try their utmost to stop you having a good time. What looks set to become another Infocom classic will retail at £35.

Electric Dreams, also under the Activision empire, is releasing *Star Raiders II*. The plot revolves around the Zylon Master. He plans to destroy the Celos IV star system: along with it will go the Atarian federation – of which you are a member. If you want to stay alive then destroy Chut (he's the master). £10 on cassette and £15 on disk.

Under the Activision label comes *Enduro Racer, Wonderboy* and *Quartet* – all licenced from Sega and all costing £10 on cassette and £15 on disk.

Enduro Racer, as you can guess, brings trail bike racing to your screen. Large detailed graphics, tarmac and desert scenes, spectacular crashes and joystick-wrenching gameplay are all promised.

Wonderboy is a dodge-the-meanies, pick-up-the-freebies and do-some-wheelies game. You control a lad on a skateboard bombing around town. Wonderboy, as he is better known, must reach his girfriend. As he dodges the treacherous beasts on his path he can pick fruit and attain bonus points. Activision says it calls for skill and timing.

Quartet stars three men and a woman, with a task: stop the aliens from destroying a space colony. The theme: caramelize the bad guys to stay alive.

Ever deeper

Gauntlet's Deeper Dungeons have arrived, another 512 screens of monster-mashing mayhem. You'll need the original game to load them into but the price is an affordable £4.99 on cassette or £6.99 on disk.

Sentinel switch

Firebird has asked us to point out a couple of changes to the *Sentinel* instructions. The first is that to transfer from one robot shell to another you use the Q key and not T. Disk users should also note that the loading command is RUN"SENTINEL and not RUN"DISC as stated.

We've also got to point out a change from our review of the game. The colour scheme that appeared in our screenshots was changed and looks even better now in the final version.

Amram II

Remember Amram? The clever gadget reviewed in *AA* 19 for fiddling with roms? Amram II is due in the next few weeks. Boasting 32k of battery-backed ram, four rom sockets, improved software and full expansion-port buffering, it will sell for £80. Tim Kay from Silicon Systems phoned to say existing owners of Amram will have the opportunity to upgrade at a price to be announced.

He also said, "A 3½-inch Megadrive will be out soon. At £179.95, it looks a very exciting product. It will have the same interface and software as the current Megadrive. As for delivery date... Well, June looks the month to watch out for."

Silicon Systems has other products in the pipeline. Tim explained, "We have many ideas – it's just time. We are constantly rushed off our feet. July or August will see a decent eprom programmer around the £40 mark. We may plunge for a 3-inch Megadrive, but we are talking well into the future."

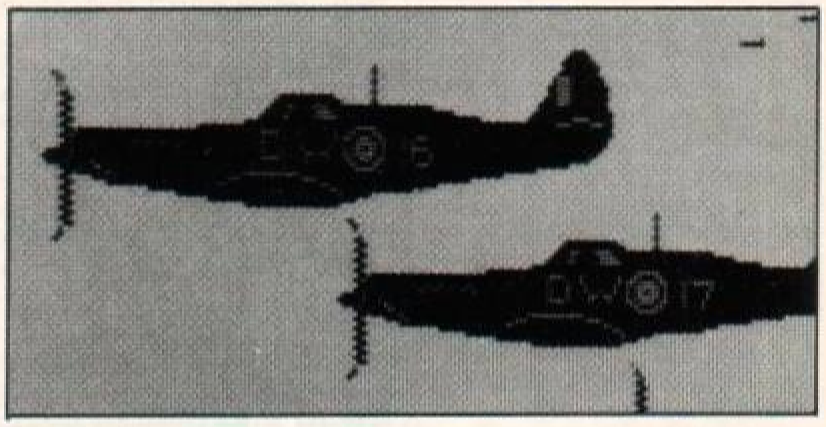
Enhanced *Easiart*

Microdraw, producer of *Easiart* (reviewed in *AA* 20) has improved upon its art package:

- An intelligent cursor is now standard.
- No need for a joystick: a Wiz Card is supplied. This is a small hand-held substitute for a joystick, a bit like a cursor control pad.

In a competition published in last month's *AA* Microdraw offered 20% off its product. The competition is still open but you'll have to hurry because the closing date is 13 May. All you have to do is produce a picture using any medium on A4 paper. All entrants can get 20% off the *Easiart* package and six winners will get a copy of the program.

The revised price for *Easiart* is £16.95 (entrants £13.56), or £22.90 (£18.32) with the Wiz Card.



Spanish manoeuvres

Ocean has acquired the rights to market games produced by the Spanish software house Dinamic. The first of those titles is *Army Moves*, a seven-stage military massacre involving jeeps, helicopters and soldiers.

The graphics look excellent and the gameplay varied as you drive a jeep across a broken bridge, fly a helicopter over hostile terrain and make your way on foot through swampland and the enemy barracks. This looks like another excellent European offering to liven up the British CPC market.

Army Moves will cost £8.95 on cassette and £14.95 on disk. Also coming soon from Dinamic are *Game Over* (see screenshot), *Freddy Hardest, Basket Master* and *After the War*.



Trivial babies

Domark has released the latest question pack for the *Trivial Pursuit* computer game. It's called the *Baby Boomer Edition* and contains questions mostly based on the 1960s and 70s, and aimed at those born during the post-Second World War baby boom.

There are 3,000 more questions of no vital importance whatsoever. The question pack costs £7.95 on cassette for those who already have the main game and £14.95 on cassette, £19.95 on disk, if you want to buy the whole game.

Think cheap

Back in issue 6 we reviewed a game from Ariolasoft called *Think!* It cost £8.95 then and got itself a Rave. Now it's being re-released by Firebird for just £1.99. It's a sort of advanced computer version of Connect 4. You can play against a skilful computer opponent or have battles of wits with another player.

The Spanish connection

Alligata is opening its jaws to reveal Dr Livingstone. Already out in Spain under the guise of Opera Soft the game *Livingstone Supongo* ("Dr Livingstone, I presume," we presume) has reached the number-one slot. Our Iberian pals have totally flipped over it. We shall soon be in the position to find out what mesmerises the Meds.

You are an explorer and must find Dr Livingstone. With boomerang (wrong continent?), dagger, grenade and polevault you must battle the dangers of the jungle. £8.95 and £14.95 are the asking prices for cassette and disk versions.



Monty's back



That cuddly bundle of mole is back. It may well be the last time: title is *Auf Wiedersehen, Monty*. Will this be Monty's finest hour or will he wish he was never born? That is left to you. Guide Monty around Europe. Don't let Intermole get him. Avoid the Monty Crushers. Wear the badge you get with the game. Gremlin's latest sounds appealing. Costs £10 and £15 on cassette and disk respectively (forget the change). Should be on the streets this month.

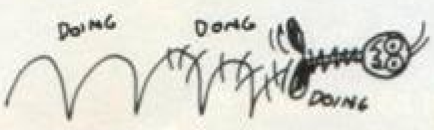
Thing's back

Gremlin is introducing a new character and reviving another of its former stars.

The new one is called Nimrod. He's a member of the Biopton race – a mechanical bunch of neo-people. Nimrod's first adventure will be called *Nimrod*. He (?) is in charge of finding fellow Bioptons that have gone missing, or rather have been abducted by hostile Cratons. June will see the appearance of *Nimrod* and another £10 cassette game (£15 on disk).

Thing will make a dramatic appearance in *Thing Bounces Back*. Due in May (why, that's any day now) it will cost £10 on cassette and £15 on disk (unless inflation hits an all-time high and the customary penny is not refunded.)

Thing managed to knock off the toy goblin in his last escapade. This time he must stop the factory from auto-producing toys. A tough challenge this: iron chickens chuck foul (sorry) eggs at his head, water squirts from pipes and surfaces explode under his unsuspecting feet. The music is written by composer Rob Hubbard – which assures us excellence.



Compilation crazy

Everybody's doing it – releasing compilations, that is. These provide excellent value for money, usually having four or more games for just £10. The latest batch looks very attractive and includes some titles that have never been released separately.

Now Games 4 from Virgin consists of five games: *Dan Dare, Back to the Future, Hacker, Mission Omega* and *Jonah Barrington's Squash*. *Dan Dare* was a rave back in issue 13 but *JB's Squash* has never been released before on the Amstrad. It costs £9.95 on cassette.

There are two compilations from Beau-Jolly, each with five games. There's *Computer Hits 5* containing *2112 AD, Wizard's Lair, Contraption, Attack of the Killer Tomatoes* and *Kettle* at £6.95 on cassette and £11.95 on disk. The second collection is *Five-Star Games II* consisting of *Cauldron II, Alien Highway, Dandy, Doomsday Blues* and *Frost Byte*. This one costs £9.95 on cassette and £14.95 on disk.

Durell and Mikro-Gen have entered the compilation fray with selections of their own games. Durell has released the *Big 4* – *Combat Lynx, Turbo Esprit, Saboteur* and the previously unreleased *Critical Mass*. All for £9.95 on cassette or £11.95 on a delightfully packaged disk. Four of Mikro-Gen's games make up the *Classic Collection No 1* at £9.95 cassette and £13.95 disk. They are *Stainless Steel, Frost Byte, Pyjamarama* and *Battle of the Planets*.

Last but not least is Elite's *Hit Pak* containing six games and an unreleased bonus title. The seven games are *Scooby Doo, Fighting Warrior, 1942, Sacred Armour of Antiriad, Jet Set Willy, Split Personalities* and *Duet*. This also costs £9.95 on cassette and £14.95 on disk.

These compilations are superb value – no one denies that – but they can be a source of discontent. Several readers have already contacted us to complain about the inclusion of *Sacred Armour of Antiriad* on a compilation, when the game was released as a separate full-price title as recently as January. They were most aggrieved at having paid £10 for a game just a couple of months ago, only to find it released on a compilation with six other games now. *Frost Byte* and *Kettle* are two other games that hit the shelves relatively recently.

This is also a bone of contention with distributors who can be left with stocks of old games that are practically worthless once they appear on a compilation. It would be nice if the industry could agree not to put games on compilations until nine months after their original release to save angering both consumers and distributors.

Let's hope that the software houses won't put short-term gain in place of the long-term good of the industry. Compilations should be used to extend the life of otherwise dead software, with the profit ploughed back into the production of more original titles – of which there is always a shortage.







Across the Channel

Infogrames will have two French products to compete with the best of the British. They are *Passengers on the Wind* and *Murders on the Atlantic*. French software is ever increasing in originality and quality.

Passengers on the Wind is an adventure-type game based on mainland Europe's largest-selling cartoon book. It is set in the 18th century. The story centres on a young maiden who attempts to regain her birthright. The game features stunning graphics and pull-down menus. Available for the 6128 or machines with expansion memory and disk drive, it will cost money.

Murders on the Atlantic is a crime thriller aboard a transatlantic cruiser. We haven't much information to go on – just that it's to be released soon and in Infocom-type packaging.



Buffer it up

A 256k printer buffer for only £99 has been released by Watford Electronics, renowned in the BBC Micro world as producers of high-quality, high-specification products. The Megabuffer can be used by most parallel-input printers. At £99 it is the cheapest of its kind: buffers of 64k capacity normally sell at this price.

Watford can be contacted on (0923) 37774 or Telecom Gold 72:MAG030.

Z80 updated

The microprocessor chip that controls your Amstrad and many other 8-bit machines since about 1978 has been updated. Zilog, one of the major chip manufacturers in the States, has been responsible for all the "80" range – the 8080, 8082, 8086 and so on. The new chip, the Z280, is being shipped in place of its successful predecessor. It boasts an operation speed of 10 MHz, has extra register space and can handle more memory. The price for improvement is £18 compared to about £6 for the old Z80.

Second City

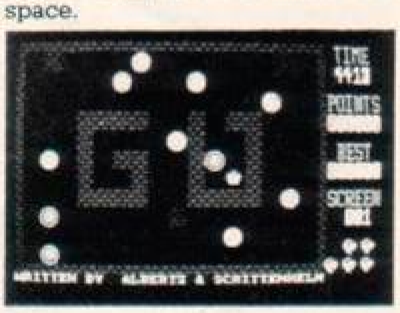
A tougher challenge awaits those who purchase the disk version of *Mercenary*. The Compendium Edition, as it is called, contains all the elements of the original cassette version, but has the Second City and the Targ Survival Kit (maps, hints and a novella).

The Second City takes you to Targ's southern hemisphere. You have no clues, no records – you're on your own.

A dataset of the Second City will be available early in June for owners of the original cassette at £5.95. Disk owners can expect to pay £19.95 for the Compendium.

Wooky, meet Moty

Wooky and *Moty* are two new games from CRL, both priced at £8.95 on cassette. In *Wooky* you supposedly have to "manoeuvre rocks into holes, avoiding lurking monsters and getting stuck in the holes yourself". While in *Moty* (see pic) you have to "arrange balls into a line, careful not to destroy the balls or yourself." Not exactly crystal clear, is it? So watch this space.



A touch of the Zynaps

Due out in June is *Zynaps* from Hewson, the producer of this month's Mastergame *Ranarama*. The new title is a scrolling shoot-em-up "with over 450 screens".

Among its other qualities are supposed to be "high-resolution multi-coloured scrolling graphics", "three-dimensional parallax starfield" (say what?), "myriads of sprites", and "rainbow colour processor". I haven't got a clue what all that will turn out like but we'll let you know and you can find out for yourself when it's released at £8.95 on cassette and £14.95 on disk.

Fooled again

Remember the cute robotic hero of *Sweevo's World*? Well he's back again in a game from FTL called *Hydrofool*. After making a real mess of his last mission he's been plonked down on a planet that's been converted into a gigantic aquarium. The game features "hydromation", but whatever that is will have to stay undiscovered until the game comes out in late May, at £8.95 on cassette and £13.95 on disk.

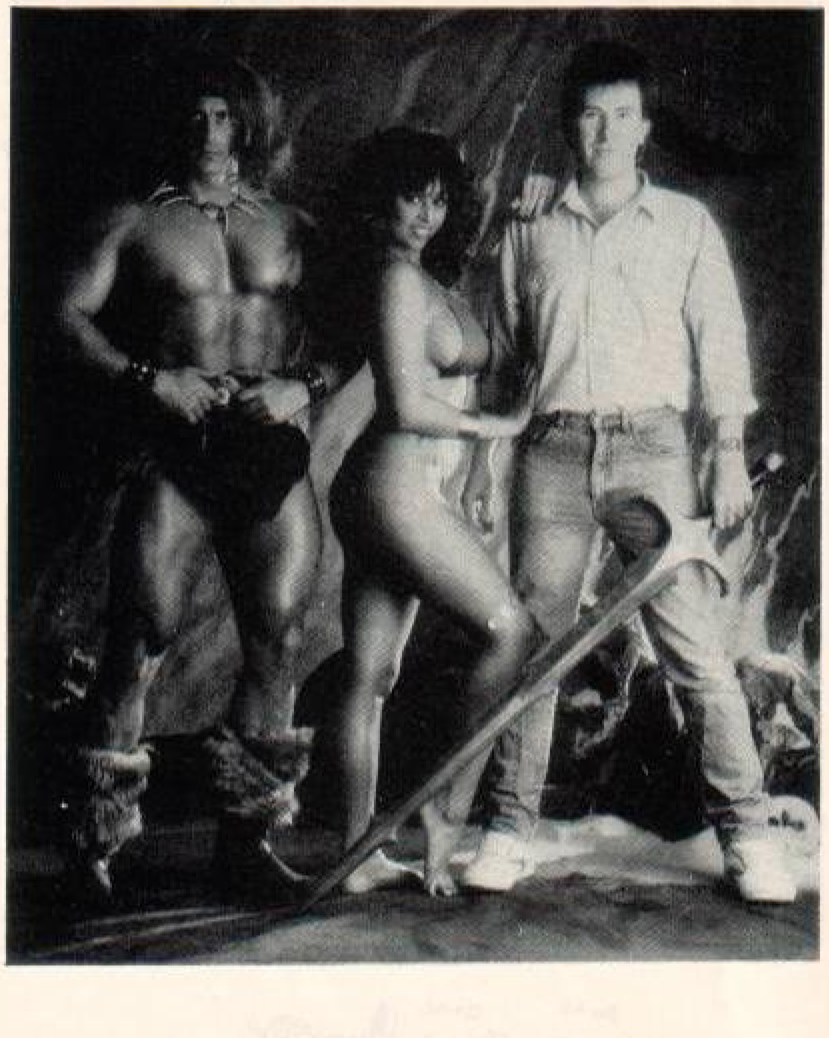
Living dangerously

Domark has acquired the rights to another Bond movie, *The Living Daylights*. Let's hope it's better than the last one, *A View to a Kill*. The game is due out in July (this probably means August or later). Will a change of actor playing Bond – the new film stars Timothy Dalton – lead to a change in the fortunes of Bond games?

Palace panache

Two chesty models are helping to promote Palace Software's latest game, *Barbarian*. The only information we have to go on is Michael Vanwigk's (the guy with the hair) 53-inch chest and Maria Whittaker's softer one. You'll be pleased to know these two delightfully moulded models will appear on the packaging and title screen of the game.

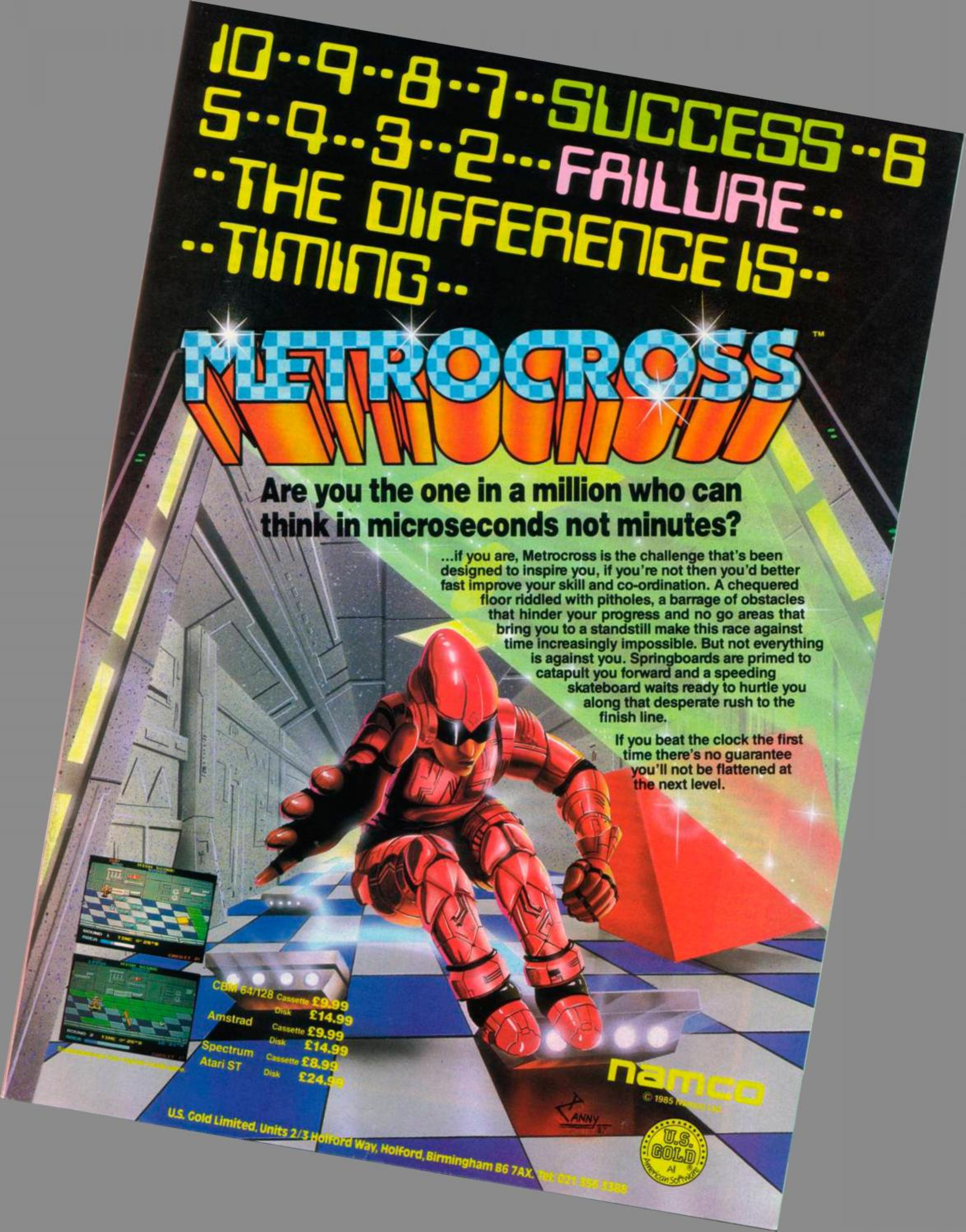
In between photo sessions Palace is busy producing top-selling games. *Stifflip & Co* is next. Combining the charms and wit of the 1920s and 30s the program revolves around Sebastian Stifflip and his three jolly companions. Their business is to search for arch-villain Count Chamelion. Described as a multi-role action adventure featuring icon and bubble control, it will sell for £10.



Processing words

Ramasoft has recently released *Junior-Wordpro*, a word-processor aimed at young children and beginners. It displays large text in Mode 0 and double spacing. "Word-processing functions have been kept to a minimum," says Brian Soul of Ramasoft.

Prompts are constantly on screen and printing is virtually automatic, which, they say, assures a gentle introduction to word-processing. *Junior-Wordpro* costs £8.50 on cassette and £11.50 on disk. Both versions are supplied with tutorial files. More from Ramasoft on (0763) 43715.


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Richard Monteiro drops palette and paintbrush for Rainbird's improved art package



Art Studio II

The Advanced OCP Art Studio

Rainbird, £24.95 disk only (£10 to upgrade) – 6128 (or expanded 464 or 664)

Slick packaging does not always contain the promised land. When it's from Rainbird this thought doesn't even enter your mind. Quality is assured. The *Advanced Art Studio* is no exception. But is it worth forking out an extra £10 to upgrade or even shell out the full £25 if you're a first-time buyer?

In November (*AA* issue 14) the original *Art Studio* met a warm reception from former technical editor Andy Wilton. His main gripes were the absence of a Mode 0 drawing facility and the presence of Lenslok. Well, Rainbird has incorporated Mode 0 drawing as well as a plethora of goodies and improvements. And as for the Lenslok system – which repelled users as well as pirates – Rainbird has replaced it with a new system: the screen flicks into view. You are requested to enter a word from a particular sentence from the manual. Well done, Rainbird: a system that won't get up anybody's nose.

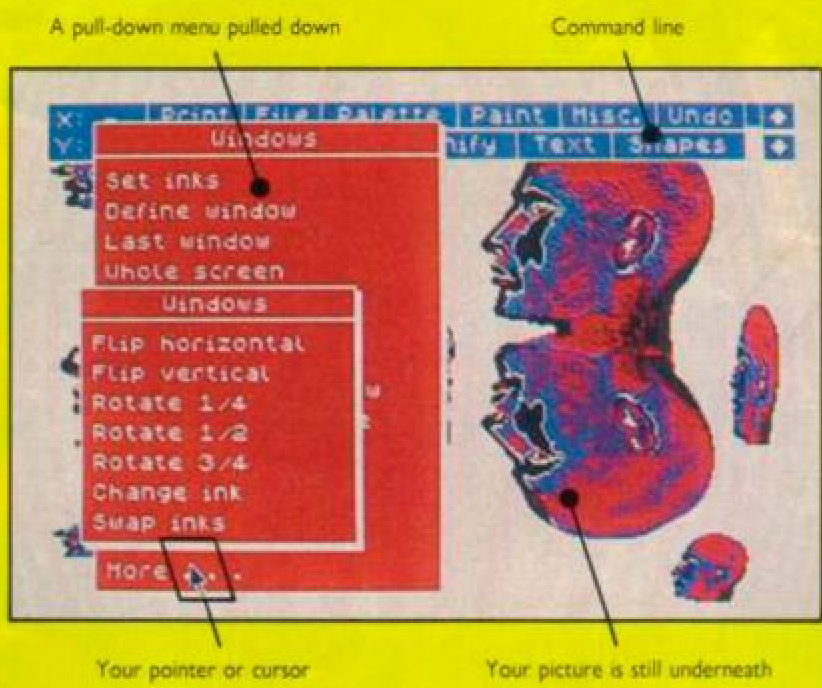
The Amstrad is capable of producing 27 colours. Sixteen of these can be displayed in Mode 0, four in Mode 1 and two in Mode 2. An inkpot can have any one of the 27 colours. These colours can be changed at any time. Simple animation effects can result when using this ink-swapping or palette-switching effect. Rainbird has included a palette-switching function within the *Advanced Art Studio*. Each inkpot can have up to 12 colours associated with it. You define the speed at which the colours `cycle` through the inkpots. The disk includes a demo picture that uses this cycling effect – impressive. After flicking quickly through the manual I was under the impression that animation sequences were possible. Closer scrutiny revealed it was just spivved-up palette-switching – a pity.

From the `Paint` menu you have 16 pens of various shapes and sizes at your disposal. To use the pen as an eraser, set it to the background colour and draw over the unwanted bits. Eight spray cans are available, varying in spray density and flow rate. An art package wouldn't be an art package without a brush option. When using brush you must select, from a menu of 15, the pattern with which you wish to paint. If none of the patterns take your fancy, load up another set from the disk. Still not satisfied? Create your own by entering the pattern editor. Patterns can be single-, double- or multicoloured.

Life is made as simple as possible inside the editor: horizontal and vertical flip, rotate at a multitude of angles, scroll the contents of the pattern box in any direction and a useful "undo" facility.

Under the `Misc.` heading is a smattering of miscellaneous options. Come here to alter screen mode, view the entire screen (without the command lines), clear the screen, choose your input device (joystick, mouse etc) and you can even find out which version of *Art Studio* you own. An intriguing option is `protect inks`. This enables you to select or deselect (depending which way you look at it) inks. These protected inks can not be overwritten – even when you try to paint or draw over them. Excellent results can be achieved using this powerful function.

Imagine you use the fill routine. Things go horrendously wrong. Just one pixel out and everything gets obliterated. Luckily there is a command with clout: `Undo`. Using this will restore your picture to its former glory – and it works every time. The trick is that two screens are held in memory. One holds the current picture; the other holds the screen as it looked before you issued the command (in our example, "fill").



Windows

A few clicks from your input device is all that it takes to define a window. After that you can rotate, compress, enlarge, copy, flip, re-scale or copy it. That is the basic side of it. To complement these features you can add unbelievable merging features: you can OR-, XOR- or AND-merge, smear (which allows you to paste the window many times, giving a paintbrush effect). It is impossible to describe all the functions fully. Once you start playing around with windows there is a chance you will use nothing else. Look at the screenshots to see what can be done – even that is just skimming the surface.

The `fill` routine used in the *Advanced Art Studio* is undoubtedly the most intelligent. As long as the object or area you wish to fill has a continuous outline there's no problem. If there is a break in the outline, the fill will leak out and probably ruin your picture. Don't worry if this does happen as you can always `Undo`. There are several fill-types: solid, over, textured, wash. Solid- and

Wimps in general

Windows, icons, mice (or pull-down menus) and *p*. The *p* is subject to much controversy here at the Old Barn: pointers, programs and pigs have been some of the suggestions. The others are not printable and not all begin with *p*. Whatever you wish the *p* to stand for, Wimps are hip and here to stay. Both versions of *Art Studio* make extensive use of windows, menus and icons; the mouse is optional. The Wimp environment is friendly, fast and fun. It also avoids heavy use of the keyboard.

over-fill will cover the area in the selected foreground colour. You can fill an area with a pattern using textured fill. Some very nice touches can be added to pictures using this – even more so if some of the inks on the screen are protected: the fill does not affect them, passing underneath instead. There is a selection of patterned fills which you can re-design using the pattern editor. The final fill possibility is wash texture. This versatile feature allows you to paint directly with a pattern. In short, it allows textures to be overlaid onto one another.

For close inspection choose the Magnify option. Three levels of magnification are available: ×2, ×4 and, for fine detail indeed, ×8.

Parts of *Pagemaker* have crept into the *Advanced Art Studio*. Text can be added to your designs in a variety of styles and sizes. The standard Amstrad font is present, with further fonts on the disk. You could always design your own characters or fonts with the font-editor. Fonts can be saved and then used from within Basic – handy. Other effects can be added such as bold, slant and kerning (adjusting the spacing between characters), or you could print them sideways down the screen. Unlike *Pagemaker*, though, you can't pull text in from a file on disk.

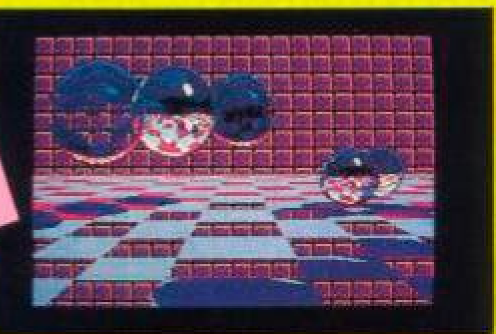
No art package is complete without the obligatory Shape menu. This one has all the standard shapes – rectangle, circle, elipse, line and dot – plus some fancy shapes: filled circles and ellipses, elastic shapes, rays.



Which texture will you choose?



Magnify blows it up



The complete screen

A normal CPC screen consists of 25 lines. The Art Studio takes three of these lines for its own use as status or command lines. Your screen is not limited by this (unlike *Pagemaker*, for example) as you can scroll the screen and bring hidden lines into view. By moving a pointer (or cursor) across the screen you can select one of the many options from the top command line and pull down its more detailed menu.

Moving from left to right across the command line, the first option is Print. From the pull-down Print menu you can produce a hard copy or dump of the whole screen or part of the screen (a window). You'll need a dot-matrix printer to use this facility: any model using standard Epson codes, such as the Amstrad DMPs. If you have a non-standard printer and get on fairly well with it, you could try to write your own printer-driver. The manual describes the procedure.

Various sizes of printout are available. Independently adjustable horizontal and vertical scaling factors enable you to create the perfect dump. Physical dimensions of a dot vary from printer to printer, so a certain amount of fiddling is necessary till you get it right. You can also print pictures sideways and in any position on the page. Stipples or dot-arrangement on the printer represent the different colours on the screen. Darker colours will have a denser dot-pattern. A nice effect is that as the picture data is sent to the printer it is echoed to the screen.

Art Studio v Pagemaker

If you delighted in *Pagemaker*'s features, when you use the *Advanced Art Studio* you may notice all the improvements or additions are similar to the AMX package. The two programs have diferent functions. *Pagemaker* is for those trendy people who want to keep up with the latest buzz in computer software, desktop publishing. *Art Studio* is for those with artistic flair. However, now that it incorporates many text-handling routines, it looks as though it may steal some of *Pagemaker*'s thunder.

Compressed screens

There is nothing startlingly new in the File department. The only addition is the ability to compress screens before saving. Minimum reduction in file size is 40%. When loading back a compressed screen there is no need to inform *Advanced Art Studio*: it knows. As well as the screen you can save the current palette. From other menus, you have the option to save character fonts, patterns, and windows. Rudimentary disk commands – cataloguing and erasing – are also available.

Interesting effects can be achieved when using the merge facility: the current screen contents combine with the new picture resulting in bizarre effects.

What you need

The original *Art Studio* was restricted to 6128 machines: 128k was needed for the program and the screen. Our review in *AA* 14 incorrectly stated that it would also work if you had a 64k expansion and disk drive on either a 464 or 664. This time we've got it right. The *Advanced Art Studio* works with any CPC machine as long as is has a disk drive and total of 128k of ram to play with. That includes 464 and 664 users with the DK'tronics expansion ram (or equivalent).

Conclusion

If you thought your current art package was complete, think again. The *Advanced Art Studio* is amazing. You'll want to use it to create pictures. Even if you're not artistic you will be surprised at what you can achieve. Its simplicity hides many complex functions. Some you may use only once. As for others, you'll wonder how you ever managed without them. Design utilities have come a long way since the days of *Easyart*. And it's all thanks to companies that care (although I'm a bit cynical about motives for "advanced" or "plus" packages that abound – I suspect they're planned well in advance!) The *Advanced Art Studio* is a powerful tool with a down-to-earth price and an easy-to-use command structure. Recommended. **AA**

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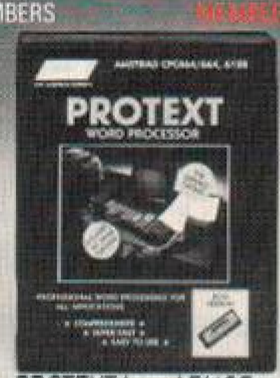
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Amsoft

the Basic idea

If you own a microcomputer then at one point or another you will enter a command in Basic. Basic – it's supposed to stand for Beginners' All-purpose Symbolic Instruction Code, but the acronym was obviously thought up first – is the simplest method the home user has for getting the computer to perform a task. It attempts to be straightforward English and often is easy to follow – but sometimes it's double-Dutch.

This article explains how you can start programming, clarifies a few Basic terms and puts them to good use, tries to banish the dreaded "syntax error" and takes you by the hand through a relatively large and complex listing.

Richard Monteiro takes you on a guided tour of Basic: how to improve your programming, avoid pitfalls and stay sane

You've bought it. Unpacked it. Run the demo tape. Played games. Used it as a word-processor. But what next? Try selling it! But before that final solution, why not have a go at Basic programming? There are numerous advantages and it sounds impressive when you tell Granny Smith that you can program a computer.

Programming develops the way in which your mind works. You start to think logically – you have no choice, for Basic is riddled with ANDs, IFs, NOTs and ORs. Formal logic is sadly a topic that is rushed through in mathematics classes at school. Computers can work only in logic: yes or no, right or wrong, true or false – that is *all* the computer understands. It is worth understanding this area of maths. It's not only a necessity if you wish to program confidently, but it's also easy.

Neatness, structure and economy will become second nature – that's what programming does for you: it helps you become organized. All the hassles of learning it and struggling with its complexities and difficulties are worth it for the thrill of producing a working program, even if you just typed it out from a magazine.

Card trick

Simon Capp of Southport, Merseyside, is the man responsible for this listing. It appears in this article as it is neat, simple-to-follow and, at the end of the day, is fun to use. It's main function will be to show you how to improve and develop your programming techniques. *Card trick* is going to be pulled apart and areas of it cordoned off. Each section is going to be explained: what it does, why does it do it, why it is of particular merit, and how it can be improved.

I'm sure the first thing you'll want to know is what does it do? Simon claims it to be "a world first" on the computer. As the title suggests it is a computerized card trick – something Mr Daniels revels in doing. The initial screen shows several rows of playing cards. You must choose one, taking pains not to reveal its identity to the computer. You've now chosen the card. Tell the computer which row it's in. Your Amstrad will then proceed to shuffle the cards, displaying them in rows when finished. Again you must inform Arnold in which row your card now appears. This will happen several times, after which your CPC will delight in telling you the card you picked.

```
1 ' Card trick
2 ' by Simon Capp
3 ' Amstrad Action     June 87
```

It's important to keep track of what the program does, when it was written and by whom. There is no better way of doing this than by putting the lot in Remark statements. Placing a REM in a Basic line will cause the computer to ignore the rest of the line. Anything can be placed after a REM except for ":" in Basic 1.0 (one of Locomotive Basic's few bugs: odd things occur). Enough! We are straying. Amstrad Basic has two ways of labelling these comment lines: REM and a simple apostrophe, "'" (which shares a key with "7"). They both do the same job. The only difference is that one takes a third the time to type in.

Remind yourself

If you load a program that you typed in six months ago you likely won't remember what it does, which keys it uses, were you got it from and why you have it. REM it and you won't forget. Don't just put REMs at the start of the program. Label the beginning of subroutines too. That way, you know what's going on.

```
50 GOSUB 130: REM Initialize
60 GOSUB 540: REM Shuffle
70 GOSUB 620: REM Select 21 cards
80 GOSUB 690: REM Ask for row and deal
90 GOSUB 1110: REM Select magic card
100 MODE 1: PAPER 0: PEN 1
110 END
```

A structured program will make extensive use of GOSUBs. A GOSUB tells the computer to execute a subroutine (or another part of the program if you like) before performing the instructions following it. When it encounters the command RETURN it will go back to where it left off. Why bother using a GOSUB when a GOTO would work and is shorter to type in? True, a GOTO would work. However, if you jumped to this subroutine several times throughout the program and from different line numbers then how would you know which line to return to? You wouldn't! The only thing you could do is to write the routine several times. Wasteful!

Follow Simon's layout when using GOSUBs. Place a REM statement after each one to describe the routine's function. Believe me, it saves a lot of headaches in the long run.

```
120 '
130 REM initialize
140 '
150 MODE 0
160 SYMBOL AFTER 239
170 SYMBOL 239,76,82,82,82,82,82,76,0
180 INK 0,0: INK 1,14: INK 2,6: INK 3,26: INK 4,15
190 PAPER 0: PEN 1: BORDER 0
200 GOSUB 350: REM Double-height code
210 RANDOMIZE TIME
220 DEFINT a-z
230 DIM pack$(51), h$(20), temp$(20)
240 FOR s=1 TO 4
```

```
250 suit$=CHR$(225+s)
260 RESTORE 330
270 FOR c=0 TO 12
280 READ card
290 pack$(c+((s-1)*13)) = CHR$(card) + suit$
300 NEXT c
310 NEXT s
320 RETURN
330 DATA 65,50,51,52,53,54,55,56,57,239,74,81,75
```

Try to keep the number of commands per line down to a minimum. The listing will look neat and prevent you making mistakes. Most of the lines in Simon's program consist of four or fewer commands.

Computers are incapable of generating a random number. What they produce is pseudo-random. And the way in which they get this pseudo-random number is by working on another number. The number following `RANDOMIZE` is the seed or number that the computer uses to produce the pseudo-random number. `TIME` holds the elapsed time since the computer was switched on or reset. Therefore, using `RANDOMIZE TIME` will ensure a reasonably random number.

`DEFINT a-z` sets all the variables to integer-type. In other words everything following the decimal point will be discarded.

Hooray for arrays

To allocate memory for numbers or strings you must dimension an array. An array is a collection of data under one name whose members are individually identified by subscripts. When you hear the words "dimesion array" it means the amount of space the array will allocate for itself. The command follows this format: `DIM name(size or amount of space to reserve)`. In line 230, Simon has dimensioned `pack$(51)`, which is an array capable of holding *52* elements: arrays start from zero. Array `h$` will hold the 21 cards that are finally printed on screen. I can't prove it yet. Just believe me.

Lines 240 to 310 are responsible for filling up `pack$`. The command `RESTORE 330` tells the computer that the data it should `READ` starts at line 330. Indeed, if you look at line 330 there is a `DATA` statement. This holds the values 65, 50, ... If you look at the back of your User Guide you will see a table that converts these numbers into their Ascii equivalents. You'll find these numbers represent A, 1, 2, 3, ..., J, Q, K: the cards found in a suit of playing cards. We have now discovered the function of `pack$`. It holds the values of all the cards in a pack.

```
340 '
350 REM Double-height routine
360 '
370 RESTORE 420: FOR a=&8000 TO &806D: READ a$
380 b=b+VAL("&"+a$)
390 POKE a, VAL("&"+a$): NEXT
400 IF b<>&3670 THEN PRINT "Error in data!": STOP
410 RETURN
420 DATA DD,66,01,DD,6E,00,7E,F5,C1,E5
430 DATA DD,E1,DD,23,DD,66,01,DD,6E,00
440 DATA 2B,C5,23,E5,7E,47,CD,06,B9,F5
450 DATA 78,CD,A5,BB,DD,21,68,80,06,08
460 DATA 7E,DD,77,00,DD,23,DD,77,00,DD
470 DATA 23,23,10,F2,F1,CD,0C,B9,3E,FE
480 DATA 21,68,80,CD,A8,BB,3E,FF,21,70
490 DATA 80,CD,A8,BB,3E,FE,CD,5A,BB,3E
500 DATA 0A,CD,5A,BB,3E,08,CD,5A,BB,3E
510 DATA FF,CD,5A,BB,3E,0B,CD,5A,BB,E1
520 DATA C1,10,AE,C9,00,00,00,00,00,00
```

This routine pokes machine-code numerals into specified memory locations. The command follows this format: `POKE address, value`. The address can be between 0 and 65535 (in hexadecimal, &FFFF). This amounts to 64k (65536 ÷ 1024) – the total amount of space or memory your computer can handle at one go. The value must be between 0 and 255, which is the largest an eight-bit computer can hold: $255 = 2^8-1$ = &FF hex = 1111 1111 binary.

Basic itself is a large machine-code program. Compared to raw machine-code it is slow: every line must be interpreted and then the relevant action must be taken. Machine-code does not suffer from this. This is what the computer works and thinks in: numbers. Often it is necessary to revert to machine-code to perform a function many times faster than the equivalent Basic routine. Simon's routine prints characters at double their normal height. Starting at 32768 (&8000), it finishes at 32877 (&806D). You can incorporate this into your own programs. Use lines 340 to 520. To get a character printed in double height follow this procedure: `a$ = "This will be printed in double height": CALL &8000, @a$`. Simple! Don't worry if you don't understand how or why this works. Master Basic before leaping into code.

```
530 '
540 REM Shuffle cards
550 '
560 FOR f=0 TO 51
570 rn=RND*51
580 t$=pack$(f): pack$(f)=pack$(rn): pack$(rn)=t$
590 NEXT f
600 RETURN
```

As you might gather, this short subroutine shuffles the cards. A loop `f` is set up to be done 52 times (from 0 to 51) – the number of cards in a pack. A variable `rn` holds a random value between 0 and 51. This is determined by `RND`: `rn=RND*51` – let `rn` equal any value between 0 and 51. The card value held in array `f` is then swapped with the value held in array `rn`.

```
610 '
620 REM Select hand of 21 cards
630 '
640 FOR f=0 TO 20
650 h$(f)=pack$(f)
660 NEXT f
670 RETURN
```

It doesn't work!

When things don't work, it is frustrating. Here are some tips that might help.

- **The best thing to do is split up long lines: one line for one command. You can do this at any colon, ":", except those following an `IF` command – lines 400, 1040 and 1160. True, the listing may be double the original length, but you'll get a much better picture of what's going on. If an error message now appears, you'll be able to pinpoint it with much more ease.**

Some other common pitfalls:

- **Confusing the letters `O` or `o` with the number `0`, or the small letter `l` or capital `I` with the number `1`. We do ask authors to avoid using these letters as variables.**
- **Confusing a colon (:) with a semicolon (;).**

`DATA` statements are particular traps for the unwary, because a blunder in one of these will cause an error message when the computer attempts to execute some other line. Watch these points:

- **Data entries must be separated by commas (,) – have you typed a fullstop (.) by mistake?**
- **Have you typed anything other than the numbers `0` to `9` and `A` to `F`? (Lower-case `a` to `f` are also permitted on the Amstrad.) These are the sixteen digits of the hexadecimal system. Data statements should contain nothing else when they are used to define characters or poke machine-code; you can tell their purpose from the `READ` statement that uses the data.**

Don't spend hours and hours on a listing that won't work. Go onto something else. Perhaps later, or even the next day, you can return to it. Chances are the mistake will stick out like a sore thumb.

If all else fails, wait till next month, when we shall look further into debugging. Indeed, there's a self-debugging program in the RpM works, but first he has to debug *it!*

Pick a card, any card

We have a shuffled pack of cards. We must now select 21 cards. These will, later, be printed on screen. And from there you will have to select one of them. Simon has taken the first 21 values from array `pack$` and placed them in `h$`. You can now see why `h$` was dimensioned.

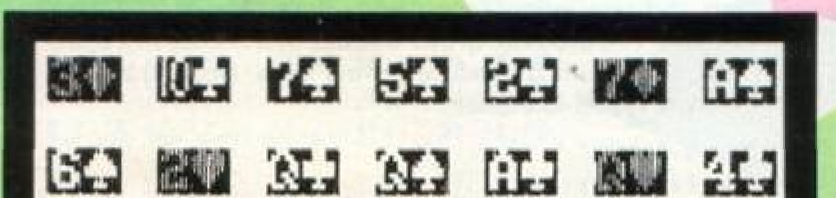
```
680 '
690 REM Ask for row & deal
700 '
710 FOR deal=1 TO 3
720 GOSUB 980: REM Deal 21 cards
730 LOCATE 6,16: PEN 4: PAPER 0
740 d$="Which  row ": CALL 32768, @d$
750 LOCATE 2,19
760 d$="is your  card in ?": CALL 32768, @d$
770 LOCATE 8,23: PEN 2: PRINT "1=Top"
780 LOCATE 1,25: PEN 2: PRINT "2=Middle   3=Bottom"
790 CALL &BB03
800 i$=INKEY$: IF i$="" THEN 800
810 IF ASC(i$)<49 OR ASC(i$)>51 THEN 800
820 row=VAL(i$)
830 IF row=1 THEN row=4
840 st=row-2
850 count=0
860 FOR f=1 TO 3
870 FOR c=st TO 20 STEP 3
880 temp$(count)=h$(c)
890 count=count+1
900 NEXT c
910 st=st+1: IF st=3 THEN st=0
920 NEXT f
930 ERASE h$: DIM h$(20)
940 FOR f=0 TO 20: h$(f)=temp$(f): NEXT f
950 NEXT deal
960 RETURN
```

From now on you'll see some Amstrad action – things will appear on screen. Line 710 sets up a three-pass loop. This loop (labelled `deal`) jumps to a subroutine that prints the 21 cards that were chosen (at random) by the computer.

After that, the computer will ask you in which row your card is held: 1=Top, 2=Middle, 3=Bottom. To print things in certain positions on the screen, you must use the commands `LOCATE` and `PRINT`. Every screen mode has a maximum of 25 lines from top to bottom of the screen. Mode 0 has 20 characters across, Mode 1 has twice this and Mode 2 twice this amount again. Therefore, if you wished the word "position" to appear on row two, line five use: `LOCATE 2,5: PRINT "position"`. The command `PRINT` will do just that. It will print whatever is held within the quotes, print numerals directly or the value of a variable.

The cards are printed. The computer has now reached line 790: `CALL &BB03`. This jumps to one of Arnold's native machine-code routines held high in memory. Its function is to clear the input-buffer. In other words if you pressed a key before the computer reached line 790 it would forget it. 664 and 6128 users have a basic command to simulate this call: `CLEAR INPUT`.

Line 800 is waiting for a keypress. `INKEY$` is the command that tests for this: `IF INKEY$="a" THEN ....` Using `INKEY$`, you can wait until a certain key has been pressed and then carry out an action accordingly. For example in a game it could test if you wanted to move left or right. Going back to line 800: assuming you haven't hit the keyboard, the computer will keep jumping to line 800 until you do. Once you've pressed a key, your Amstrad checks that it's between 1 and 3. If not, then back to 800 you go.



The secret revealed

After telling the computer in which row your card lies, they will be re-drawn. Once again inform the computer in which row your card appears. This happens three times in all. Each time the computer draws up the cards, in a seemingly random order. Lines 830 to 920 hold the secret to the trick:

There are three rows of cards. You tell the computer which row the cards is in. Suppose it lies in row one. The computer then starts "picking up" the cards two rows down (row three). It then goes to the next row down (four). However, as row four does not exist it jumps to the first row (row one), picks up those, moves to the next row (two) and picks up those. When it lays the cards out the next time, they are placed down in columns not rows. Every time you choose a row. The computer whizzes through this cycle (which happens three times). Assuming you haven't cheated – or more kindly, been inconsistent with your card choice – the computer will be able to reveal the chosen card.

```
970 '
980 REM Deal 21 cards
990 '
1000 CLS
1010 p=0
1020 FOR across=1 TO 20 STEP 3
1030 FOR down=1 TO 9 STEP 4
1040 IF RIGHT$(h$(p),1) = CHR$(227) OR RIGHT$(h$(p),1) =
     CHR$(228) THEN PAPER 3: PEN 2 ELSE PAPER 3:PEN 0
1050 LOCATE across, down: CALL 32768, @h$(p)
1060 p=p+1
1070 NEXT down
1080 NEXT across
1090 RETURN
1100 '

1110 REM Select magic card
1120 '
1130 CLS
1140 LOCATE 4,2:PAPER 0:PEN 2
1150 d$="Your card was":CALL 32768,@D$
1160 IF RIGHT$(h$(10),1) = CHR$(227) OR RIGHT$(h$(10),1)=
     CHR$(228) THEN PAPER 3: PEN 2 ELSE PAPER 3: PEN 0
1170 LOCATE 10,7: CALL 32768, @h$(10)
1180 PEN 4: PAPER 0: LOCATE 2,18: PRINT "Another go? (Y/N)"
1190 i$=INKEY$: IF i$="" THEN 1190
1200 IF UPPER$(i$)="Y" THEN 60
1210 IF UPPER$(i$)="N" THEN RETURN
1220 GOTO 1190
```

It is here that the computer tells you the card you selected. After "picking up" the cards for the fourth time it is guaranteed that the card you chose will be sitting in position eleven of the `h$` array. If you don't believe me, do the trick with a real pack of cards. It works every time.

Finally you are asked whether you want another go. Yes and you jump to line 60 where it begins all over again. No and you'll get the Ready sign.

The *AA* offices are overflowing with type-ins. There are more listings than pages at the moment. In fact we've had to move to a bigger building to cope with them all. If you haven't heard anything about your program, don't worry. We'll soon get around to yours.

Textdump

If you want to dump whatever is on your screen to printer, this handy listing from **Nigel Magowan** of Hillsborough, County Down, is just what you need. Type in the program and run it. If everything goes according to plan then the message `New Command: |TDUMP` will appear. Then you can save Textdump as a binary file:

```
SAVE "TEXTDUMP.BIN", B, 41000, 100
```

To load it again, type the following commands:

```
MEMORY 40999
LOAD"TEXTDUMP.BIN",41000
CALL 41000
```

Alternatively you can save this as a Basic file: `SAVE "TEXTDUMP"`.

When you have a screen of text, issue the command `|TDUMP` to send its contents to the printer. If your printer has a dipswitch allowing you to toggle between carriage return (CR) and carriage return and linefeed (CR & LF) set it for CR & LF. On the Amstrad DMP-2000 printer, this is dipswitch 4; move it to the *on* position.

```
10 ' TEXTDUMP
20 ' by Nigel Magowan
30 ' Amstrad Action   June 87
50 MODE 1
60 MEMORY &A027
70 checksum=0
80 PRINT "Please wait -- POKEing in progress."
90 LOCATE 1,3:PRINT "New Command: "
100 LOCATE 1,5:PRINT "|TDUMP"
110 FOR a=41000 TO 41099
120 READ x$
130 checksum=checksum+VAL("&"+x$)
140 POKE a,VAL("&"+x$)
150 NEXT a
160 IF checksum<>11470 THEN CLS:PRINT "ERROR in DATA":STOP
170 CALL 41000
180 LOCATE 1,7:PRINT "RSX set up."
190 DATA 01,36,a0,21,32,a0,cd,d1
200 DATA bc,c9,00,00,00,00,3b,a0
210 DATA c3,42,a0,54,44,55,4d,d0
220 DATA 00,00,cd,11,bc,fe,00,28
230 DATA 36,fe,01,28,36,fe,02,28
240 DATA 36,cd,06,b9,2e,ff,26,ff
250 DATA 3e,0d,cd,74,a0,2c,7d,fe
260 DATA 19,28,28,24,7c,b8,28,ee
270 DATA e5,c5,cd,d6,bd,c1,e1,cd
280 DATA 74,a0,18,ef,cd,2b,bd,d8
290 DATA cd,2e,bd,30,f7,18,f9,06
300 DATA 14,18,ce,06,28,18,ca,06
310 DATA 50,18,c6,c9
```

Serpent

T Magee of Harlow, Bucks, has written a routine that moves several lines around the screen simultaneously. The listing works only on 664 and 6128 machines. However, if you have a 464, you can remove the last two commas and the 1 from line 60 – you won't get the same effect but it's better than a syntax error.

```
1 ' Serpent
2 ' by T Magee
3 ' Amstrad Action   June 87
10 MODE 1
20 ORIGIN 320,200
30 GOSUB 60:a=a-2
40 IF a>-0.1 THEN GOSUB 60
50 a=a+2.1:GOTO 30
60 MOVE 220*SIN(a/2),98*COS(a),,1
70 DRAW 200*COS(a/2),198*SIN(a)
80 RETURN
```

Guidelines for Type-in authors

Anything from £10 to £100 could be yours if your type-in is selected to appear in these pages. Remember it must be your own original work and not previously published elsewhere. The address: **Type-ins editor, *Amstrad Action*, 4 Queen Street, Bath, BA1 1EJ.** Please submit your work on paper as well as on disk or cassette.

If you plan to send a Type-in listing to be considered for publication, here are a few pointers:

- Use lower-case rather than capitals for variable names. Keep them short but meaningful.
- Do not use letters that look like numbers as variable names: lower-case L (l), capital I or either O. Even B can look like 8 on some printers.
- Structure your programs – divide them into sensible procedures.
- REM statements make the program easier to understand – especially when you rediscover it on tape six months later. Put program name, source and date at the top. REM every subroutine to outline its purpose. (Starting a line with an apostrophe (') is the same as REM.)
- Avoid long multi-statement lines. Short = easy to debug.
- Try to keep lines short enough to fit our columns without confusing wrap-arounds.
- And *please* make sure your name and address (in human-readable form!) is on every single piece, especially the label of the cassette or disk. Keep a copy.

Fuzzy

Here is an interesting routine from **David Hudson** of Monmouth, Gwent. It simulates the fuzzy picture seen when your television set goes haywire.

```
1 ' Fuzzy
2 ' by David Hudson
3 ' Amstrad Action   June 87
10 ON BREAK GOSUB 60
20 MODE 1:BORDER 0:INK 0,0:INK 1,26
30 INK 2,13:INK 3,0:FOR p=&C000 TO &FFFF
40 POKE p,INT(RND*256):NEXT p
50 OUT &BD00,INT(RND*256):GOTO 50
60 MODE 2:END
```

Triangles

A short and interesting listing from **Dale Clinton** of Motherwell, Strathclyde. The program draws a series of triangles in a spiral form – typical of something produced using Logo. Once drawn, you are treated to a tunnel-like effect.

```
1 ' Triangles
2 ' by Dale Clinton
3 ' Amstrad Action   June 87
40 DEG:MODE 1:q=1:CALL &BC02
50 FOR numb=1 TO 440 STEP 5
60 FOR count=1 TO 4:p=count*120
70 c=c+1:IF c>3 THEN c=1
80 x=SIN(numb+p)*numb+320
90 y=COS(numb+p)*numb+200
100 IF count=1 THEN PLOT x,y
110 DRAW x,y,c:NEXT count,numb
120 INK 0,0:BORDER 0:p=0
130 FOR numb=1 TO 300
140 p=p+q:IF p>3 THEN p=1 ELSE IF p<1 THEN p=3
150 INK p,26:FOR count=1 TO 50:NEXT count
160 INK p,0:NEXT numb:q=-q:GOTO 130
```


My kingdom for a type-in...

Filecopy

Martin Schroeder of Hildesheim in West Germany has sent in a very useful utility: a file-copying routine. Have you used CPM 2.2's Filecopy, or even PIP under CPM Plus? Then you'll know what a drag they are. Martin's program is faster, easier to use and not that long. You can transfer files between drive A and B, which was impossible with the CPM Filecopy.

The listing adds a new command to Basic, `|COPY`. The way to use this command is:

```
|COPY, @filename$, source drive, destination drive
```

Drive A has a value 0 and drive B a value 1. To copy a file from drive B to drive A, this is the procedure:

```
a$ = "File.bin" : |COPY, @a$ ,1 ,0
```

Loading starts as soon as you have entered the line. Wait, then insert the destination disk and press a key.

Running the listing causes a binary file to be saved to your disk. This is the filecopy routine. When you need this utility load it by typing:

```
LOAD "filecopy.bin" : CALL &AF00
```

```
1 ' Filecopy
2 ' by Martin Schroeder
3 ' Amstrad Action   June 87
10 DEFINT a-z
20 CALL &BC02:MODE 1:CLG 0:BORDER 1
30 PRINT SPC(14);"Please wait !
40 FOR x=&AF00 TO &AFE5
50 READ a$:a=VAL("&"+a$)
60 POKE x,a:check=check+a:NEXT
70 MODE 2
80 IF check<>27275 THEN PRINT"Data Error !"CHR$(7):END
90 PRINT"RSX-FILECOPY  START:&AF00   END:&AFE5"
100 PRINT"After saving type in CALL &AF00"
110 SAVE"filecopy",b,&AF00,&100,&AF00
120 DATA 21,17,AF,01,0D,AF,CD,D1,BC,CD
130 DATA AC,AF,C9,12,AF,C3,1B,AF,43,4F
140 DATA 50,D9,00,00,00,00,00,FE,03,C0
150 DATA DD,7E,00,32,E7,AF,DD,7E,02,32
160 DATA E6,AF,DD,56,05,DD,5E,04,1A,32
170 DATA E5,AF,13,1A,6F,13,1A,67,22,F2
180 DATA AF,11,F6,AF,3A,E5,AF,4F,06,00
190 DATA ED,B0,3A,E6,AF,32,02,A7,21,F6
200 DATA AF,3A,E5,AF,47,CD,77,BC,22,F0
210 DATA AF,ED,53,EA,AF,ED,43,EC,AF,E5
220 DATA 11,1A,00,19,7E,5F,23,7E,57,ED
230 DATA 53,EE,AF,E1,11,12,00,19,7E,32
240 DATA F4,AF,2A,EA,AF,CD,83,BC,CD,7A
250 DATA BC,CD,18,BB,3A,E7,AF,32,02,A7
260 DATA 3A,E5,AF,47,AF,21,F6,AF,CD,8C
270 DATA BC,2A,EA,AF,ED,5B,EC,AF,ED,4B
280 DATA EE,AF,3A,F4,AF,CD,98,BC,CD,8F
290 DATA BC,C9,21,B9,AF,06,2C,7E,CD,5A
300 DATA BB,23,10,F9,C9,0D,0A,46,49,4C
310 DATA 45,43,4F,50,59,20,49,6E,73,74
320 DATA 61,6C,6C,65,64,20,20,28,63,29
330 DATA 20,31,39,38,37,20,4D,2E,53,63
340 DATA 68,72,6F,65,64,65,72,0D,0A,00
```

Random symmetrical patterns

There have been many pattern generators, but not many of this calibre. **Derick Braithwaite** of Potters Gate in Sheffield certainly knows how to create impressive graphical displays.

An unlimited number of patterns can be produced using this generator. All are kept within a square graphics window to keep horizontal and vertical distances identical. Once a design is complete you have two options: R to form a new pattern, C to cycle through colours (which can give kaleidoscope effects).

```
1 ' RSPG
2 ' by Derick Braithwaite
3 ' Amstrad Action   June 87
10 MODE 1:BORDER 0:INK 0,0
20 ORIGIN 0,0,128,512,392,8
30 PRINT CHR$(23)+CHR$(1)
40 DATA -1,-1,1,1,1,-1,-1,1
50 INK 1,INT(1+RND*26)
60 INK 2,INT(1+RND*26)
70 INK 3,INT(1+RND*26)
80 DIM a(32),b(32)
90 FOR z=1 TO 16
100 m=INT(2+RND*6)*8
110 a=(INT(RND*3)-1)*m
120 a(z)=a:b(z+16)=a
130 b=(INT(RND*3)-1)*m
140 b(z)=b:a(z+16)=b
150 NEXT z
160 FOR c=1 TO 4
170 READ aa,bb
180 FOR z=1 TO 24
190 x=48*COS(r):y=48*SIN(r)
200 r=r+15/57.29578
210 FOR d=1 TO 32
220 col=col+1:IF col=4 THEN col=1
230 IF d=1 OR d=17 THEN col=0
240 IF d=1 OR d=17 THEN MOVE 320+x,200+y
250 DRAWR a(d)*aa,b(d)*bb,col
260 NEXT d,z,c
270 a$=INKEY$
280 IF a$="r"THEN RUN 10
290 IF a$="c"GOTO 300 ELSE GOTO 270
300 INK 1,INT(RND*26)
310 INK 2,INT(RND*26)
320 INK 3,INT(RND*26)
330 GOTO 270
```

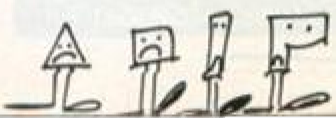


Controlling patterns

Here is a gem by **Alex Gough** of Hastings, East Sussex. It draws multi-coloured lines whose direction you control with the cursor cluster. There are five different line patterns to choose from – even a mirror effect, done by pressing the spacebar.

Palette switching (or ink swirling, as Alex puts it) is put into effect by pressing R. You can get some very impressive and spectacular designs with this listing.

```
1 ' Controlling patterns
2 ' by Alex Gough
3 ' Amstrad Action   June 87
10 BORDER 0: DEG: DIM b(16): MODE 0: INK 0,0
20 REM set ink colours
30 FOR a=1 TO 15: READ b(a): NEXT
40 FOR a=1 TO 15: INK a,b(a): NEXT
50 DATA 1,3,6,9,13,17,21,24,26,2,4,15,22,11,19
60 x=150: y=100: i=1: m=0
70 ORIGIN 320,200: pp=1: REM pattern type
80 REM plot coordinates and draw mathematical functions
```



```
90 IF pp=1 THEN PLOT x+50*SIN(y),y+50*COS(x),i: DRAW x,y
100 IF pp=2 THEN PLOT x+1/2*y,y+1/2*x,i: DRAW x,y
110 IF pp=3 THEN PLOT x+50*SIN(y),y+50*SIN(x),i:
    DRAW x,y: PLOT x+50*COS(y),y+50*SIN(x),i: DRAW x,y
120 IF pp=4 THEN PLOT x+50*SIN(y),y+50*COS(x),i:
    DRAW x,y: PLOT -x-50*SIN(y),-y-50*COS(x): DRAW-x,-y
130 IF pp=4 THEN PLOT -x-50*SIN(y),y+50*COS(x),i:
    DRAW -x,y: PLOT x+50*SIN(y),-y-50*COS(x),i: DRAW x,-y
140 IF pp=5 THEN PLOT -x-50*SIN(y),y+50*COS(x),i:
    PLOT x+50*SIN(y),-y-50*COS(x)
150 IF pp=5 THEN PLOT x+50*SIN(y),y+50*COS(x),i:
    PLOT -x-50*SIN(y),-y-50*COS(x)
160 IF INKEY(0) AND y>-200 THEN y=y-4
170 IF INKEY(1) AND x>-300 THEN x=x-4
180 IF INKEY(2) AND y<200 THEN y=y+4
190 IF INKEY(8) AND x<300 THEN x=x+4
200 a$=LOWER$(INKEY$)
210 IF a$=" " THEN pp=pp+1: IF pp=6 THEN pp=1
220 IF a$="c" THEN CLS
230 IF a$="r" THEN 280
240 IF a$="m" THEN m=m+1: GOSUB 350
250 i=i+1: IF i>13 THEN i=1
260 GOTO 90
270 REM rotate inks
280 FOR g=1 TO 15
290 FOR h=1 TO 15
300 IF INKEY$=" " THEN GOTO 90
310 INK h,b((g+h)MOD 15)
320 NEXT: NEXT
330 GOTO 280
340 REM change graphical drawing mode
350 IF m=2 THEN m=3
360 IF m=4 THEN m=0: SOUND 1,100,50,5
370 PRINT CHR$(23);CHR$(m)
380 RETURN
```

Star-dodging

A one-liner game. Yes, it's true. **Rajiv Gatha** of Ascot has managed to squeeze all the elements of a hot arcade game onto one line (not including the Rem statements). Type in the listings and dodge those stars.

```
1 ' Star-dodging
2 ' by Rajiv Gatha
3 ' Amstrad Action   June 87
10 MODE 0:s=306:WHILE(TEST(s+8,18))=0:TAG:MOVE s,14:
   PRINT CHR$(239);:MOVE RND(1)*620,399:PRINT CHR$(46);:
   TAGOFF:LOCATE 1,1:PRINT CHR$(11);CHR$(11);:
   s=s-((INKEY(71)+1) AND s>=0)*4:s=s+((INKEY(63)+1) AND
   s<=612)*4:WEND:PRINT"WHO0PS":FOR t=0 TO 1000:NEXT:RUN
```



Rally Rally Rally

The **Akinlawon** brothers of Neasden in London have clubbed together to produce this simple but addictive racing-car game. Straight from the horse's mouth: "You are on the home straight. All you have to do is stay on the road, but it's not easy. The road twists and turns: negotiate the bends or crash!"

Use the left and right arrow keys to control the car. At the start of the program you are given a start-on-which-track option.

```
1 ' Rally
2 ' by Frederick & Jensen Akinlawon
3 ' Amstrad Action   June 87
50 SYMBOL 255,24,219,219,24,60,165,231,189
60 ' **COLOUR**
70 MODE 1
80 INK 1,9:INK 2,12:INK 3,18:BORDER 18:PAPER 3:CLS:
   INK 0,6:roadx=10:carx=12
90 ' * ARROW POINTING UPWARDS=CTRL+K*
100 A$=CHR$(240)+CHR$(240)
110 REM **MILEAGE**
120 PEN 1:PRINT "You Drove ";miles;" Miles"
130 PRINT:PEN 0:PRINT"On Track";track
140 miles=0
150 ' * MAIN PROGRAM *
160 LOCATE 1,10:PEN 2:INPUT"TRACK 1 OR 2";track
170 IF track=1 THEN CLS:choice=1:SYMBOL 254,28,62,127,62,
    255,127,154,255:ELSE 180
180 IF track=2 THEN CLS:choice=2:SYMBOL 254,255,129,191,
    191,191,191,191,255:ELSE 190
190 IF track>2 OR track<1 THEN GOTO 160
200 IF choice=1 THEN INK 2,12:INK 1,9:INK 3,18:BORDER 18:
    INK 0,6:SYMBOL 254,28,62,127,62,255,127,154,255
210 FOR n=1 TO 40:PEN 1:LOCATE n,1:PRINT CHR$(254);:NEXT
220 IF choice=2 THEN INK 2,10:INK 1,3:INK 3,15:INK 0,0:
    BORDER 15:SYMBOL 254,255,129,191,191,191,191,191,255
230 IF choice=1 THEN LOCATE roadx,1:PEN 1:
    PRINT CHR$(254)+CHR$(254);:PEN 2:PRINT CHR$(143)+
    CHR$(143)+CHR$(143);:PEN 1:PRINT CHR$(254)+CHR$(254)
240 IF choice=2 THEN LOCATE roadx,1:PEN 1:PRINT
    CHR$(254)+CHR$(254);:PEN 2:PRINT CHR$(143)+CHR$(143)+
    CHR$(143)+CHR$(143);:PEN 1:PRINT CHR$(254)+CHR$(254)
250 LOCATE 1,2:PRINT A$:LOCATE carx-1,25:PEN 2:PRINT
    CHR$(143)+CHR$(143)+CHR$(143)
260 d=INT(RND*3)+1
270 IF d=1 THEN roadx=roadx
280 IF d=2 THEN roadx=roadx-1
290 IF d=3 THEN roadx=roadx+1
300 LOCATE carx,24:PEN 0:PRINT CHR$(255)
310 IF roadx=1 THEN roadx=2
320 IF roadx=25 THEN roadx=24
330 IF INKEY(1)=0 THEN carx=carx+1
340 IF INKEY(8)=0 THEN carx=carx-1
350 miles=miles+1
360 '**COLLISION DETECTION**
370 IF miles=1000 THEN GOTO 460
380 aa=carx*16-8:bb=400-(24*16-17)
390 IF choice=2 AND miles=500 THEN choice=1:GOTO 200
400 t=TEST(aa,bb)
410 IF t=1 THEN 440
420 SOUND 129,3000,200,5:SOUND 132,3000+20,200,5
430 GOTO 230
440 '** CRASH **
450 SOUND 129,so,35,5:SOUND 132,so+20,35,5:
    SOUND 130,3,50,7,0,0,7:FOR N=1 TO 100:NEXT:
    CLS:GOTO 110
460 CLS:LOCATE 1,1:PEN 1:PRINT"congratulations"
470 LOCATE 1,5:PEN 2:PRINT"You have one the race"
480 FOR n=1 TO 100:LOCATE 1,20:PEN 3:PRINT n;:NEXT:GOTO 10
```




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PROBLEM ATTIC



Your enigmas with Arnold will never

Tape to disk

I have recently bought an Amstrad 6128. Having many games on cassette I wondered if there was a command I could type in to transfer the lot to disk. If there isn't could you recommend a utility that would do the job? And how much it costs and from where I can purchase it?

Graeme Cole
Liberton, Edinburgh

Unfortunately there is no simple method of transferring tapes to disk – certainly not from Basic. Goldmark Systems indulges in this service: you post a cassette game – the original, mind – and get a disk back. Both Goldmark and Siren also sell utilities to transfer software. Another alternative is the Multiface II from Romantic Robot. This device sits at the back of your computer: when the cassette game has loaded press a button and it's on disk – nice and easy. It has a higher success rate than either software utility, but at three or four times the price. Check their ads for how much and where.

Please note that neither Siren nor Goldmark nor Romantic Robot nor Future Publishing condone piracy. We realise there are users who would benefit from having their games or utilites on disk. Don't use these devices to blatantly copy and distribute software. It is an offence!

Binary that's really Basic

Could you please explain how you managed to get your *Fast Formatter* (cassette with *AA* 16) to produce a file (BIGK.BIN) which appears to be binary, but after a closer look turns out to be Basic? I have tried this many times. Miserably, I might add, and have to resort to using `|REN`. I noticed you have done this from machine-code. How?

Edward Reid
Drumchapel, Glasgow

The first thing you must do is (obviously) write your Basic program. Save it as a Binary file. Suppose that on average each line of Basic is 127 characters long, enter `SAVE "filename.bin", b, &170, x`, where x is 127 times the number of Basic lines. Once you have done that, for argument's sake, type `MEMORY &3FFF: LOAD "filename.bin", &4000`. You have now got your Basic program high up in memory. The code to save it as a Basic file with a .BIN extension can follow this. Once assembled, save the whole lot as a binary file and call it whenever you wish to produce the file.

```
ORG &4000+127*(number of Basic lines)

06 12        LD B,12
21 17 40     LD HL,name
CD 8C BC     CALL &BC8C
21 00 40     LD HL,&4000
11 ?? ??     LD DE,127*(no of basic lines)
3E 01        LD A,1
CD 98 BC     CALL &BC98
CD 8F BC     CALL &BC8F
C9           RET

             NAME
             TEXT "filename.BIN"
```

A rhyme for Amfile

I'm having some trouble with Amfile,
Which is really beginning to rile:
Saving data to disk
Is becoming a risk
And is making me quite vile.

The problem, you see, is like this:
Every time that I save a list,
It rubs off for sure
What I saved before;
There really is something amiss.

I know before very long
This trouble will send me ding-dong,
So please help me please,
I beg on my knees:
Show me where I'm going wrong.

Wayne Gardner
Kilmington, Wilts

Amfile was designed to work from a tape-based system. However, here are the necessary amendments to let disk systems take advantage of it:

Delete lines 1800 to 1830, 1890 to 1910, 1960 to 1990, 2130 to 2160, 2180 to 2200, 2330 to 2370, 2460 to 2470, 2500 to 2540

Alter the following:

```
1870 CLS:INPUT"File name (8 characters max): ";extra$
1880 OPENOUT extra$
1930 OPENOUT extra$+".1"
1950 OPENOUT extra$+".2": FOR g=1 TO rec: FOR h=1 TO
     field: PRINT#9,rec$(g,h): NEXT: NEXT: CLOSEOUT
2000 GOTO 60
2070 CLS
2080 INPUT"File name (8 characters max): ";extra$
2090 OPENOUT extra$
2110 OPENOUT extra$+".1"
2170 GOTO 60
2320 INPUT"File name (8 characters max): ";extra$
2380 OPENIN extra$: INPUT #9, title$
2400 CLOSEIN: OPENIN extra$+".1"
2420 OPENIN extra$+".2"
2450 CLS: GOTO 100
2490 INPUT"File name (8 characters max): ";extra$
2550 OPENIN extra$: INPUT #9,title$
2570 CLOSEIN: OPENIN extra$+".1"
2640 CLS: GOTO 100
```

Searching for an RSX

When trying to dissassemble the *Gauntlet* poke for the disk version (*AA* 18) by RpM (is that Richard Monteiro?) I became puzzled. Am I right in thinking that the machine-code searches for an RSX and uses this RSX to load the relevant bit from the disk? If so, how does it do it?

R Carlyon
Reading, Berks

The answer to your first question is yes. Your theories are partly correct: the `CALL &BCD4` searches all RSXs and background roms for a given command name. The HL contains the address of the command name or RSX that you wish to search for. Note that the command name must be capital letters with the last character having bit 7 set:



PROBLEM ATTIC

(well, hardly ever) stump our expert RpM

```
ORG &9000

LD HL,command_name
CALL &BCD4
JR NC,error
LD (routine_address),HL
LD A,C
LD (rom_select_address),A
error
RET

command_name
DEFB 'TAP','E'+&80

routine_address
DEFW 0

rom_select_address
DEFB 0
```

If the command that you searched for wasn't encountered, the carry flag is returned false. However, if all went according to plan then the HL register pair contains the start address of the routine. The rom number or select address is contained in the C register.

The disk rom contains several RSX commands (`|TAPE`*,* `|A` *and* `|ERA` *are a few). There are nine other extra commands; these have single control-character names (Control-A to Control-I) and therfore cannot be accessed from Basic. However, using the method described returns the routine's start address and the rom in which it lies. With this information, performing a RST 3 instruction will allow access to these extra commands. Examples detailing the use of the disk rom routines appeared in issues 16 and 17.*

What's Stat?

In issue 11 I read under Booting Up CPM that ye ancient 2.2 users can now benefit from STAT at the `A>` prompt – fine, we now know how much space we have left on the disk if we overlooked the Basic command `CAT` before booting.

Not so fine, however, is typing in at the `A>` prompt `STAT*.*` which gives "`STAT*.*?`". Nearrghh! What's going on?

Bernard Brighton
Sheffield

`STAT *.*` *may prove to be more productive. Most CPM commands need spaces (or some other delimiter) between different parts of the command – true to CPM's unfriendly nature.*

Read only

Regarding the unerase trick in Hot Tips 18. When I enter `POKE &A701, &E5` and then `|ERA, "*.*"` something strange happens. The computer prints on the screen: "`eeeeeeee.eee" is read-only`. Can you tell me what "eee etc" is and why when I catalogue my disk it doesn't appear?

Mark Bydder
Ealing, London

You are trying to trick the computer. The poor thing is getting terribly confused. Your poke puts you into user area 229. When you catalogue the disk from there, you see a list of erased files because the value &E5 or 229 is the byte that is placed in the catalogue track to signify an erased file – the content of the file is still somewhere on the disk, unaffected unless you've since overwritten it with something new.

&E5 is also a filler byte: when you format the disk, this value is written into every location, including of course the directory track.

Furthermore, if the first byte of the extension has bit 7 set – in other words, if the byte is 128 or higher – then it is a R/O file (read-only – can't be erased). If the second byte in the extension has bit 7 set then the file is SYS (system – it can't be catalogued). The system thinks all the &E5s in the directory are files and tries to erase them. When printing the filename it ignores bit 7 of each character: 229 – 128 = 101, which is the Ascii code for e*. Hence the odd message you saw.*

Saving under interrupt

Please help! I have written a simple machine-code routine to save the contents of memory onto disk.

Objective: incorporate it into a fast ticker interrupt routine which is called when the Control key is pressed.

Reality (groan): when the key is pressed the disk drive starts going round ... and round ... and round – no data is saved. The only way to stop the drive from whirring is to reset.

A similar program written in Basic worked fine, but when compiled using Ocean's *Laser Compiler* developed the same problem. Is there any way round this?

E Donald
Redland, Bristol

I came up with a similar problem when trying to do as you had suggested. For some reason rom 7 (the disk rom) must be initialised before jumping to the save routine. It is a good idea if you remove any other roms you may have connected, as the routine below initialises all roms – they all reserve a little memory space and thus corrupt the top of memory. The example saves the screen memory when the control key is pressed:

```
ORG &9000
LD HL,event_block
LD B,&81
LD C,0
LD DE,event_routine
CALL &BCE0
RET

switch_off_event
LD HL,event_block
CALL &BCE6
RET

event_block
DEFS 9

event_routine
LD A,23
call &bb1e
RET Z
CALL switch_off_event
LD C,&FF
LD HL,run_prog
CALL &BD13
run_prog
CALL &BCCB
ld b,12
LD HL,filename
LD DE,2000
CALL &BC8C
LD HL,&C000
LD DE,&4000
LD A,2
CALL &BC98
CALL &BC8F
RST 0
filename
DEFB 'filename.bin'
```

HOT TIPS

Hard cats, talking bugs and other distorted characters revealed (or hidden) by you, the Amstrad experts

Reset no more

I have worked out several pokes that I hope will be of use to some readers:

POKE &BDEE, &C9	turns reset function off
POKE &BDEE, &C3	turns reset function on
POKE &B4E7, 0	turns shiftlock off
POKE &B4E7, &FF	turns shiftlock on
POKE &B4E8, 0	turns capslock off
POKE &B4E8, &FF	turns capslock on

Note that the shiftlock and capslock pokes are for 464 users only.

Mark Swinson
Thatch End, Midx

Printing with Artist

Did you see the *Artist* program in *AA* 16? If you haven't typed it in, I suggest you do so. Alter line 350 to read:

```
350 IF z$="Q" THEN GOSUB 10000:RETURN
```

Now a couple more *ifs*. If you have a DMP 2000 printer, then jump to appendix 2, pages 6 and 7, where there is a program for a graphics screen dump. But enter it after the *Artist* listing, starting at line 10000. Save the whole program.

Whenever you have completed a picture press Q, and the screen will dump to the printer. Look at the picture I created using *Artist* and the DMP 2000 print routine. Not bad, huh?

Rikard Parting
Hammersmith, London



A bugs story

Did you know that *Mini Office II* (disk version) contains a secret story within the word-processor? Press the keys B U G S simultaneously while loading the word-processor from the main menu. I include a poke to send the story to your screen or printer.

But that is not all. There is another hidden story on the disk. To access this hidden story you must alter a few lines of the poke listing:

```
1 ' Message finder
10 INPUT"Screen or
   Printer (S/P): ";a$
20 IF a$="P" OR a$="p"
   THEN j=8
30 MEMORY &4000
40 GOSUB 240
50 INK 1,26:MODE 2
60 INK 0,0:BORDER 0
70 b=&4188
80 d=0
90 FOR t=2 TO 5
100 FOR s=&8 TO &13
110 er%=0
120 CALL &A000,b,d,t,s,
   @er%
130 b=b+&200:NEXT s
140 NEXT t
150 d=&420D
160 a=PEEK(d)
170 IF d=&4A90 THEN END
180 IF a>127 THEN 210
190 IF a=4 THEN GOSUB 220
200 PRINT#j, CHR$(a);
210 d=d+1: GOTO 160
220 WHILE INKEY$="": WEND
230 RETURN
240 WHILE p$<>"end"
250 READ p$
260 p=VAL("&"+p$)
270 POKE &A000+a,p
280 y=y+p
290 a=a+1:WEND
300 IF y<>&1E29 THEN PRINT
    "DATA ERROR": END
310 RETURN
320 DATA fe,05,c0,dd,4e,02,dd,56
330 DATA 04,dd,5e,06,dd,6e,08,dd
340 DATA 66,09,dd,e5,d5,e5,c5,21
350 DATA 3c,a0,cd,d4,bc,22,3d,a0
360 DATA 79,32,3f,a0,c1,e1,d1,df
370 DATA 3d,a0,30,03,21,00,00,dd
380 DATA e1,dd,56,01,dd,5e,00,eb
390 DATA 73,23,72,c9,84,00,00,00
400 DATA end
```

The above, as it stands, will find and print the message you get when holding down the bugs keys. Alter the lines below to get the other hidden story from the disk:

```
90 FOR t=38 to 39
100 FOR s=&C1 TO &C9
150 d=&5300
170 IF d=&6600 THEN END
```

Richard Hodges
Barnet, Herts

Well, Richard, you get the prize for most exciting discovery of the month. And for those who don't own Mini Office II *on disk, here's a snippet from the bugs story:*

"Hi! I am your Bug. I shall be your guide for a sightseeing tour around the word-processor. Before you load Mini Office II, *it is advisable to lift the top of the Amstrad and spray liberally with a good insecticide, making sure all available memory is covered."*

It gets worse!

Hard cat

While searching for an earlier edition of *AA* in order to find the CAT #8 program, it suddenly occurred to me that there was a much easier way to obtain the same result.

First boot up CPM. Insert the disk you want to catalogue. Press Control-P followed by Return. Type DIR, again followed by Return. When the printer has finished its business press Control-P. Et voila, you have your hard-copy cat.

Andrew Sharp
Farmoor, Oxford

Tasword revisited

I enjoyed the tip on *Tasword 6128* and did some more digging with my disassembler. Other useful locations I found:

```
POKE 6632, page number header space
POKE 6633, header text space
POKE 6634, footer text space
POKE 6635, page number footer space
```

Graham Bennett
Hereford

Newton's mum made rotten apple pie

Smoothly scrolling

The other day I was playing about with some of the Amstrad's Out commands and discovered some interesting reults. Reset the computer before typing in each of the following:

```
1  OUT &BC00,4: OUT &BD00,255
2  OUT &BC00,4: OUT &BD00,1
3  OUT &BC00,5: OUT &BD00,120
4  OUT &BC00,9: OUT &BD00,1
5  OUT &BC00,9: OUT &BD00,0
```

Enter this listing and watch that screen fly:

```
10 MODE 1:PAPER 3:CLS:BORDER 16
20 PEN 1:LOCATE 4,13
30 PRINT"SCROLLING THE SCREEN ";:PEN 0
40 PRINT" (literally). ":t=45:PEN 2
50 PRINT SPACE$(52)"By David Hall"
60 OUT &BC00,2:OUT &BD00,t:FOR d=1 TO 3
70 NEXT:m=t*9:t=t-1:IF t=0 THEN t=63
80 SOUND 1,m,1:IF t=45 THEN 90 ELSE 60
90 FOR t=0 TO 2000:NEXT:GOTO 20
```

Continuing the subject of minus signs (see "More minus signs' last issue) try this:

```
PRINT --(114 minuses)- (return)
```

David Hall
Stretford, Manchester

Cavorting with characters

Three tiny listings capable of transforming your character set. Roll up, roll up: italic, thin and bold are here for the taking.

```
10 ' Italic characters
20 CLS:SYMBOL AFTER 32
30 FOR A=HIMEM TO HIMEM+767 STEP 8
40 FOR B=1 TO 4
50 A$=BIN$(PEEK(A+B),8)
60 B$=RIGHT$(A$,1)+LEFT$(A$,7)
70 POKE A+B,VAL("&X"+B$)
80 NEXT B,A
```

```
10 ' Thin characters
20 CLS:SYMBOL AFTER 32
30 FOR A=HIMEM TO HIMEM+767
40 B=PEEK(A):POKE A,B OR B\2
50 NEXT A
```

```
10 ' Bold characters
20 CLS:SYMBOL AFTER 32
30 FOR A=HIMEM TO HIMEM+767
40 B=PEEK8A):POKE A,B AND B\2
50 NEXT A
```

To turn off these new fonts you must enter: `SYMBOL AFTER 256`.

Alastair Scott
Grangemouth, Stirlingshire

HACKERS ONLY

The section that brings the CPC's darkest secrets to light. If you don't understand what's written here, bad luck. You'll get no explanation, for this is where the hackers hang out.

A new firmware routine?

I think I have found some previously undocumented entries in the jumpblock (I use a 6128). They are all used by the Basic rom but reside in the Kernel.

The only useful one I have found so far is located at &BD5E (see box). It is the routine used by Basic to read lines of input from the keyboard.

The other entries from &BD61 onwards seem to be associated with floating-point arithmetic. For example, the entry at &BD64 converts a number in HL with a sign in A to a 5-byte floating-point number.

Are these entries documented anywhere? They are definitely not in *Soft 968*.

Tony Hoyle
St Annes, Lancs

The routine you're describing can be considered as a Basic vector rather than a firmware routine – its actual name is EDIT. You can be assured that firmware routines will always be in the same place in the 464, 664 and 6128. This isn't true with Basic vectors, which are located in different areas of the three machines – unfortunate.

EDIT, as you correctly stated, is located at &BD5E in the 6128. 664 owners can find it at &BD5B and 464 users at &BD3A. You have documented the routine impeccably. The only reference I could find is in The Anatomy of the CPCs *(ISBN 0948015 462). The book tells only the routine's whereabouts, not what it does or how you can use it.*

Using this vector can open up some intriguing possibilites. For example, you could redirect the vector to your own routine which checked for certain commands. If it found this command then it could branch off and do its bit, otherwise it could pass the contents of the buffer to the Basic system. The perfect way of adding Basic commands: no need for the "|".

<u>Notes:</u>
–The line is input using all the normal editing keys.
–The buffer is a string terminated by CHR$(0). If it has characters in it when the routine is called then the cursor is placed at the start of the line and the current line is echoed to the screen.
–All control codes are echoed to the screen as graphics characters.
–The line is a maximum of 255 characters. When the routine exits the last character will be followed by CHR$(0), ready to call the routine again.

Tony Hoyle
St Annes, Lancs

`202: KL INPUT ???` BD5E

Get a string from the keyboard.

<u>Action:</u> Read the keyboard into a buffer until Return or Esc is pressed.

<u>Entry conditions:</u> HL contains the address of the buffer (must be above &4000).

<u>Exit conditions:</u>
–If the line was terminated by Return:
A contains &D
Carry true
–If the line was terminated by Esc:
A contains &FC
Carry False
–Always:
Other flags corrupt
All other registers preserved

```
LIMIT &C000
ORG &BE80
     LD HL,&ACBA    ;buff used by Basic
     LD (HL),0      ;clear first word
     CALL &BD5E     ;every time called
     LD A,(&ACBA)      ;checks for
     CP "h"            ;new command
     JR NZ,send to basic
     LD A,(&ACBB)
     CP "i"
     JR NZ,send to basic
     LD HL,m1
     CALL prt
     RET

send to Basic    ;pass buffer to interpreter
     RST 3,jump to Basic
     RET

jump to basic
     DEFW &C0AA
     DB 0

prt
     LD A,(HL)
     CP 0
     RET Z
     CALL &BB5A
     INC HL
     JR prt

m1
     DEFB 13,10,"Hi to you too",13,10,0
```

The assembly listing does just that. It adds a new command to Basic. To initialize the routine Call &BE80. Try entering `hi`, *or a Basic command. The way it is set up means it will look for the words* `hi` *only once. If you patch &BD5E directly it should be possible to add new commands without having to call the start routine. This works on the 6128. It shouldn't be difficult to alter the listing for 464 or 664 machines.*

RpM's avenue

A mate for Buzby

Jim Nagel files this copy using electronic mail and a new smart modem

Linnet modem

Pace, £159.85

A linnet, in case you're as ignorant as I was, is a songbird – a finch that eats flaxseed, in fact. And the worst thing I have to say today about the new intelligent modem from Pace, the maker of our old standby Nightingale, is that its reset button is a fiddle to find. In six months or a year I might also be moaning that it doesn't offer 1200/1200 transmission or even faster – because by then the UK might have more high-speed services (while the Excited States, ever a leap ahead, will no doubt be up to at least 9600).



All in all, Linnet is a pretty nifty bit of kit. It belongs to a new generation of "smart" modems, controlled completely by software commands. The front panel has a half-dozen glowing lights but no knobs or switches. It uses the Hayes codes, which are becoming to modems what Epson is for printers. Type `AT?` for a handy help screen showing them all, plus a few.

And of course the modem can send signals *to* the software, reporting dialtone or engaged signal, for instance. This opens possibilities for clever programmers. The system can easily enough dial the appropriate number (if need be, several times) when someone's name is typed, and can hand over for an old-fashioned voice conversation as easily as transmit a word-processor file. With suitable software, setting up your own electronic bulletin board would be straightforward using Linnet's ability to answer a ringing telephone.

Up to 32 telephone numbers and descriptive tags can be stored in Linnet's own memory, which is backed up by mains-charged batteries.

The front-panel lights indicate mains power, connection to the telephone line, detection of a carrier signal, transmitting and receiving data. The sixth glows as a reminder if the modem is on phone-answering duty. For human ears also to monitor what's happening when Linnet tries to connect a call, there is a tiny loudspeaker connected in parallel to the telephone. It's too faint amid the daytime babel of the *AA* office but adequate at home.

A reset stud hidden on the back of the modem is the only other control. According to the very thorough manual from Pace, this is a panic button that should hardly ever be needed. I found, however, that it was often difficult to get the modem's attention again when I needed to be rescued from one of Telecom Gold's exasperating little loops. Typing `+++`with a one-second pause before and after is supposed to hold the line while you have a private local word with Linnet. `ATh` should then tell Linnet to hang up. But Telecom Gold insists on replying "Illegal command" or `NUI?` after each `+`. Meanwhile Hayes (an American firm) is trying to claim European patents on this escape code – extraordinary!

A minor annoyance when using Pace's own *Commstar* software for viewdata is that the Return key is set to send Prestel's `#` and isn't recognized by Linnet at the end of commands: you have to resort to Control-M.

Linnet can handle the V21 and V23 transmission standards, and automatically sense the rate of the distant terminal. Most amateur bulletin boards use V21, which is 300 baud (bits per second) in both directions. Viewdata systems such as Prestel use V23: you receive at 1200 but send at 75. Linnet can swap roles in either standard, to originate instead of answer.

The Linnet's pricetag compares well against its competitors with similar features: the WS4000 from Miracle Technology at about £170, the Tandata TM500 at £230. (Pace gets points for choosing a name and not yet another number.) Look inside the case of any of them, though, and I wonder what should cost so much, having heard that knowhow and the right bits could build a decent modem for £40 – and fit it on board the computer instead of in yet another box to clutter the desk, requiring yet another power supply. (Linnet's sits in the mains socket like a pregnant plug.) The hardest part has always been getting British Telecom approval to plug new gadgets into the phone network. I think we can expect modem prices to come down, for BT has declared its intention to reduce some of the red tape.

If you haven't already got a serial (RS232) interface for your Amstrad and software such as *Commstar*, remember you need these as well: could set you back another £50.

GOOD NEWS	BAD NEWS
■ Trouble-free operation.	■ No 1200/1200 speed.
■ Control by software – no fiddly switches.	■ Reset button awkward to reach.
■ Senses operating speed of distant computer.	■ You need software and serial interface as well.
■ Auto-answer facility.	
■ Auto-dial; can also be used to dial voice calls.	
■ Stores 32 numbers, with battery backup.	
■ Comprehensive manual.	

Pace Micro Technology ☎ (0274) 48 8211 e-mail 79:PCE001
Allerton Road, Bradford, West Yorkshire, BD15 7AG Micronet 274 729 306

On-liners

■ *Electronic mail: a guide for humans* is a new booklet from Telecom Gold. It says Gold now has over 61,000 subscribers and is doubling annually. The older Telex system has 100,000 in the UK; Gold should soon overtake. With an electronic mailbox you can send telexes as well, so it makes you wonder why anybody nowadays bothers with clumsy old telex.

■ You can now go to the Prestel page you want in a user-friendlier fashion: type a keyword such as `*swap#` or `*news#` instead of having to remember a nine-digit number. When will they do the same for mailboxes?

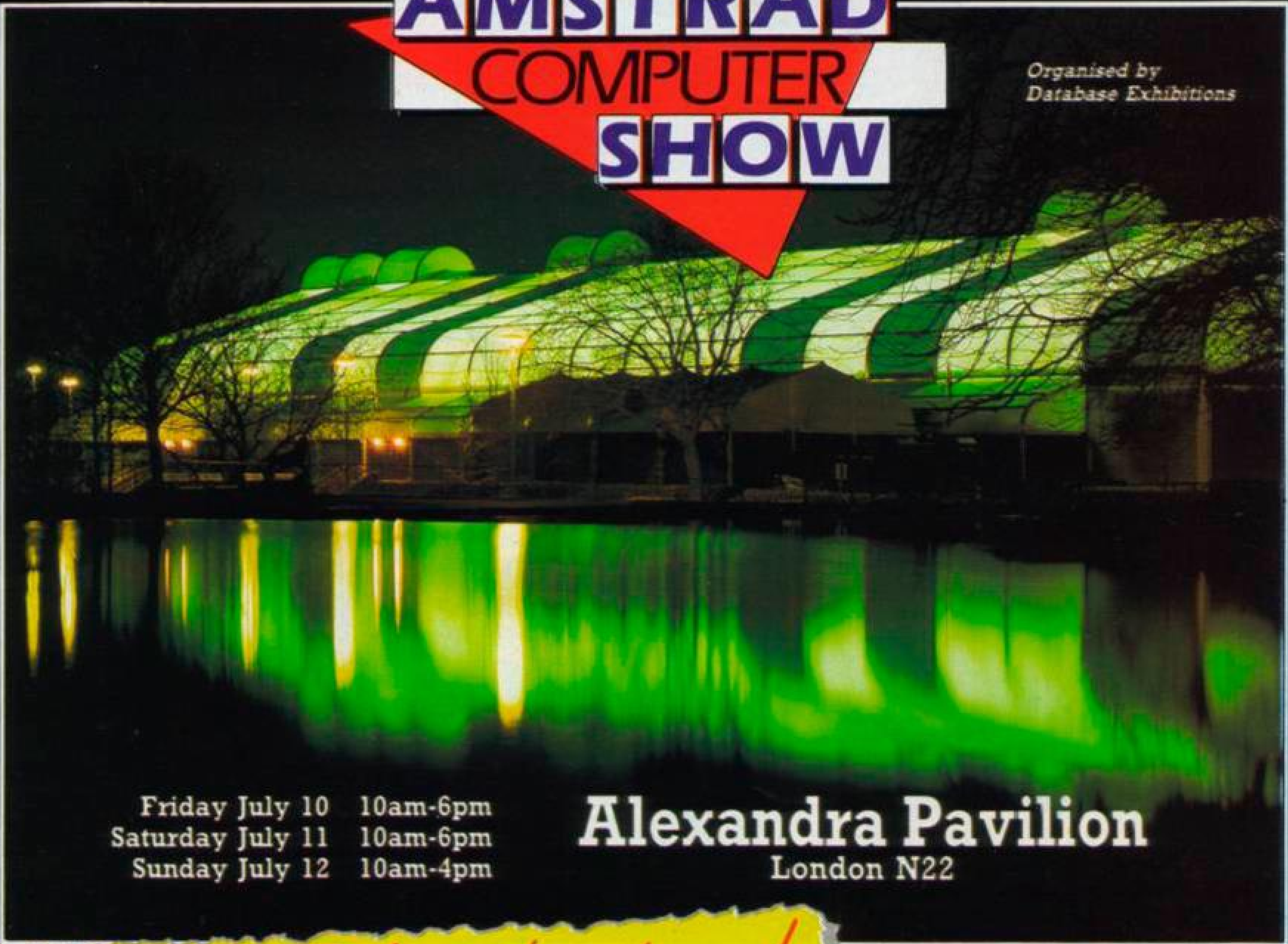
■ You can get free registration on Microlink if an existing subscriber introduces you. Your friend also gets £5 off his bill for each introductee. The scheme is proving popular as far away as Denmark, Holland, Spain and Iceland.

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Maxam II

Arnor Ltd,£79.95 disk only – CPC 6128 only (and PCWs)

Mad about MAXAM II

Richard Monteiro jumps into a product from Middle Earth

When *Maxam* came out two years ago a reviewer said it "should be held up as an example of what can be done by programmers who care" – the best thing since sliced 464. The words have appeared on its ads ever since. Arnor's answer to pleas from software houses and programming enthusiasts set the standard. In its heyday *Maxam* certainly held its own, losing out only to complete programming packages such as *Pyradev* and *Laser Genius* (the latter being bugged in places). The follow-up, *Maxam II*, makes previous attempts at Amstrad assemblers, editors and monitors look puny – even pathetic.

Seeing Arnor's thick red plastic case tells you you're in for a treat. A nicely presented looseleaf instruction manual presenting itself as *Maxam II – Macro Assembler* slides from the sleeve. Contained is enough information to shove the disk in the drive and start programming. Separate chapters deal with the editor, assembler and monitor and there are useful appendices and a glossary of terms – it even tells you where "Arnor" was derived (see bottom of page). Unfortunately the information is sketchy in places, below Arnor's usual standards for documentation.

Maxam II works under the CPM Plus operating system. This means you can run it only on the CPC 6128 or PCW computers – unless your 464 or 664 has the DK'tronics expansion ram (or similar) plugged in the back and you can lay your hands on a CPM Plus system disk. It also means goodbye to the old *Maxam*'s ability to mix Basic and assembler and the handiness of a rom version: not possible under CPM.

Read on

If this review leaves you floundering and you want an introduction to the subject of assembler and machine-code, try this book: *Master Machine-code on your Amstrad CPC 464 and 664* by Jeff Naylor and Diane Rogers. It's a paperback published by Sunshine Books at £6.95 (or see *AA* Special Offers). ISBN 0 946408 80 7. There's also *Introducing Amstrad CPC 464 Machine-code* by Ian Sinclair for £9; ISBN 0 00 383079 9.

There are several stages in creating a machine-code program. First enter the *Editor* and write the program using Z80 mnemonics. Then the *Assembler* takes over and checks for correct syntax. If everything is fine it produces the machine-code; otherwise it's back to the *Editor* to correct any mistakes. Creating a bug-free machine-code program is almost impossible or at least rare – especially if it's something as complex as a spreadsheet or even one of the many commercially available games. This is where the *Monitor* comes in handy. It helps find those elusive bugs.

Word-processor simplicity

Have you used *Protext*? If you have then you'll swear you are using it when you enter the editor. You can use this editor as a word-processor – it is that good.

To enter text you must be in Edit mode. You can move the cursor rapidly from top to bottom of the text, move from one end of a line to the other and scroll the page up or down a screenful at a time – handy features standard on any decent word-processor, but rarely found on machine-code editors. *Maxam* had the most advanced editor; *Maxam II's* is better. Being able to move the cursor

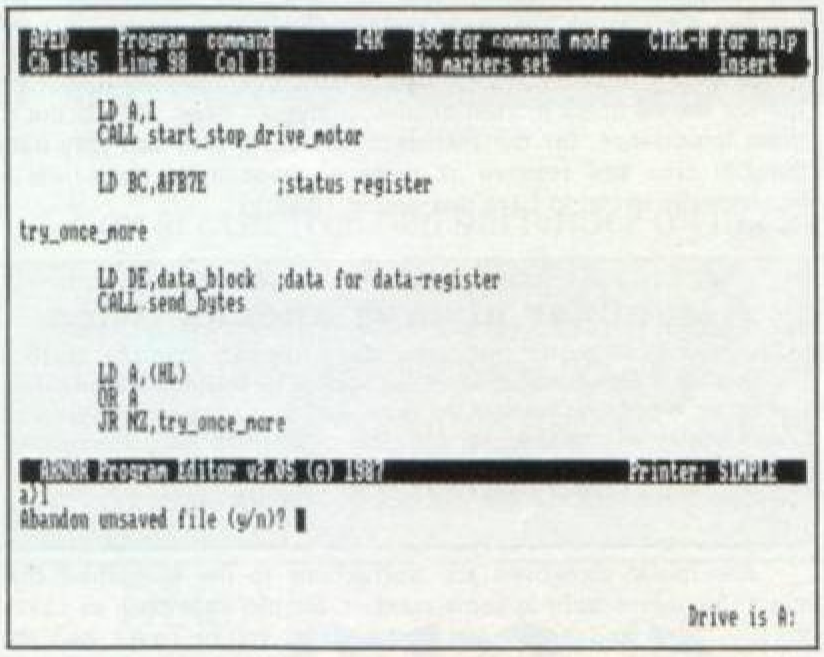
The editor side of things

Programmers trying to communicate often mumble the word *editor* (absolutely nothing to do with Bob). What they mean is a program that is used to create *assembly files*. An editor is a simple-word processor, and in fact you could probably use your favourite word-processor instead. You type in symbols and numbers – Z80 mnemonics or opcodes.

anywhere on screen makes altering or correcting text a positive joy. The frills don't stop there: using Control-key sequences you can perform all sorts of wonderful tricks. The more useful: change case, insert or overwrite, swap two characters, un-delete, goto line, mark a place, concatenate lines. Play around with the editor and you'll discover many undocumented Control-key commands. For example, Control-S will show all hard spaces and Control-T lets you see tabs and hard returns. There are many more, with varying degrees of worth. If you own *Protext* take a peek at its manual.

As with all high-standard word-processors, the editor includes block commands to define sections of text to copy, move, delete or even un-delete. The search-and-replace system is sophisticated and comprehensive: wildcards, global, case-specific, complete word, or automatic.

Pressing Escape (while using the editor) toggles between Edit and Command mode. In Command mode you can use all the CPM commands such as `REN` and `ERA`, change the currently logged disk, catalogue, save and load files or blocks, merge files, print files or define printer options, call other CPM (or `.COM`) programs, assemble the file, enter the monitor...



This is where you type it – the editor

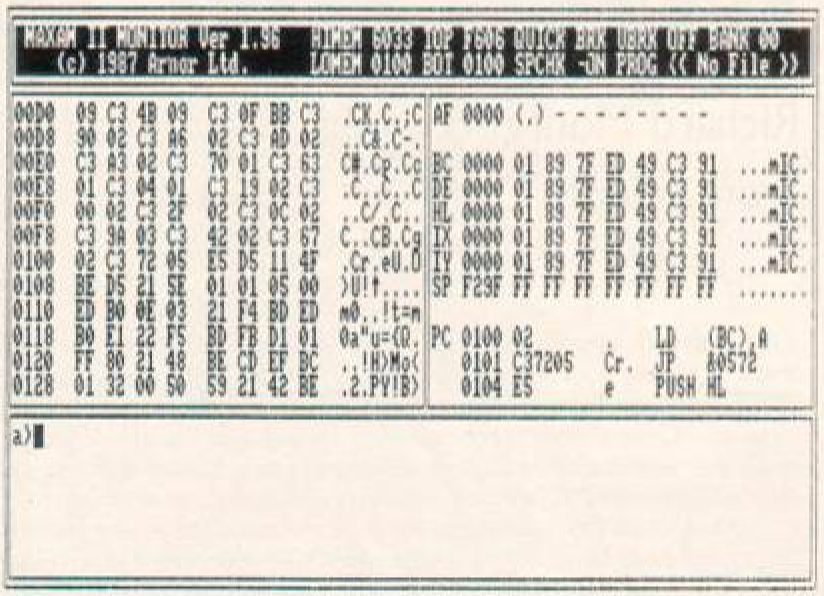
Unlimited file size

File size is governed by free space on the disk – so extremely large files are possible. One problem when editing files of this size is disk accessing: as the whole file will not fit into memory, temporary files are set up and loaded or saved when necessary – this can slow things down. It is best, therefore, to have several shorter files and link them together when necessary. There is a facility to work on two files simultaneously. They are loaded and saved separately, so any action you perform on one won't affect the other. This is a very powerful function which will, among other things, enable you to copy blocks between one file and another.

Arnor: "The land of the king." In the Third Age of Middle Earth, Arnor was known as the "lost realm of the North". The kingdom was re-established by Elessar after the War of the Ring

Monitor marvels

When you make a mistake in Basic a friendly message appears (well, 90% friendly) telling you where and why the error occured. No such luck with machine-code programs. A monitor is a machine-code debugger. It cannot tell you exactly where the error is, but it does help – you will have to pinpoint it yourself and correct it. (More detail in last month's *AA*, page 36.)



You can see what's happening – the monitor

Assemblers normally accept commands in this form:

```
hobbit_status  LD HL,(&200)    ;where is Frodo?
               ADD HL,DE
               BIT 4,H         ;test bit 4
               RET Z           ;return if set
lose_life      DEC A           ;else Frodo loses a life
label          instruction     comment
```

Maxam II's assembler will accept all three fields or a selection of them. It caters for all the 700-odd documented Z80 instructions – but not the 98 or so hidden or undocumented ones. This is not of great importance, for the manufacturer, Zilog, may one day alter the Z80 chip and remove all trace of these instructions – it is occasionally useful to have this option, though.

Assembler always knocks twice

An *assembler* creates machine-code – numbers that the microprocessor understands and can act upon. The assembler loads the *source file* you created with the editor and scans it; it checks syntax and legality as it goes along. If it finds no errors it will produce the machine-code *object file*, but if it detects an error the assembler will point out your mistake and return you to the editor.

Assembler directives are instructions to the assembler that affect the object-code in some manner. Simple ones such as `LIST`, `NOLIST`, `DUMP` and `PAUSE` are godsends if you've never had the pleasure of using them. Several high-powered ones are incorporated into *Max II's* assembler.

- `W8080`: You can write code for the Zilog 8080 chip using Z80 mnemonics. If the assembler encounters Z80 instructions that don't have 8080 equivalents it will beep loudy and point out the error. You can then return to the editor and sort out the problem. 8080 code is directly convertible to 8086 and 8088 code (which runs on the PC 1512).
- Conditional assembly: This is a must if several versions of a program are required (say for CPM 2.2, CPM Plus and Amsdos). Using `IF`, `ELSE` and `ENDIF`, complex conditions or logic can be programmed; even more so when used with `AND`, `OR` and `NOT`.
- `LINK`: Assembly files can be linked or joined together. Even programs created using *Arnor C* can be coupled. Libraries of subroutines can be set up in this manner – once assembled there is no need for re-assembly which will, in time, save time.

It's a macro assembler

The original *Maxam* didn't support Macros – one of its major setbacks. I'm thankful this has been rectified in *Max II*. Macros are in effect commands you define yourself – a sequence of instructions represented by a single name. They are perfect for reducing the size of your source-code. They make it more legible and assemble according to the parameters you give it.

If you've never experienced an expression evaluator then you've been missing out on a lot. Arithmetic expressions can be used by both assembler and monitor. You can have nested parentheses, indirections, logical operators and operator precedence. Numerals can be entered in binary, decimal or hex. Expressions are evaluated to 16 bits. Great, but what use is all this? Say you wished to determine the contents of the DE register plus seven, and print the result as the source-code was assembled. You would enter something to the effect of `PRINT (DE+7)`.

Another feature that let the original *Maxam* down was lack of a decent monitor. True, there was a simple memory monitor or editor, but nothing as hard-hitting as the one included in *Max II*.

If you wish to examine memory, your program, or other people's programs then visit the *monitor*. It is a flexible system for debugging and tracing machine-code programs. Included in its bag of tricks is a disassembler, one-pass assembler, single-stepping function, conditional-breakpoint option, memory editor and a relocater.

Full features

When editing memory you just place the cursor over the memory location you wish to alter and enter the new value in Hex or Ascii – the same simple approach as found in *Maxam*. One major difference, though: you can enter data in assembly form – one line at a time. The Z80 registers also fall within the power of *Maxam II's* monitor: they can be altered. Individual flags can be set or reset.

Disassembling is just as easy: press the Copy key and watch those mnemonics appear. Two forms of disassembly exist: intelligent and simple. The intelligent diassebler inspects the code and places you on the first legal instruction it finds. The simple version churns out mnemonics regardless of what they are or whether they are meaningful.

Single-stepping is undoubtedly one of the most powerful functions within a monitor. Three types are supported: "Step quickly" runs a program or subroutine at full speed in memory. The monitor retains control, allowing you to exit by pressing a key. "Step slowly" runs the code as usual, but displays register contents after each instruction has been executed. "Single-step" is similar to step slowly, but you have even more control.

Breakpoints are another method of debugging programs. Insert a hard breakpoint within the code you wish to test and when the program gets there it will stop immediately and return control to the monitor. Of more use: Conditional breakpoints. These cause a stay of execution when certain conditions fall true.

The editor alone is enough to sell *Maxam II*. Adding an excellent assembler and superb monitor leave little doubt in my mind: this is one product that will never need up-grading.

Thank you, Arnor: *Maxam II* is stunning. Numerous features, previously unheard-of on an Amstrad computer, make this the most complete and competent programming package around. Simple, speedy and sophisticated – three words that sum up a tremendously powerful tool.

Arnor Ltd ☎ 01-684 8009
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GOOD NEWS

- Unbelievable editor. So simple it's childs-play.
- Link option means enormous files can be assembled.
- Can program in 8080 using Z80 mnemonics.
- Macros and conditional assembly.
- Breakpoints, slow-running and symbolic debugging.
- The ultimate tool: has everything a programmer could ask for.

BAD NEWS

- 6128 only unless you have extra 64k, disk drive and CPM Plus.
- Expensive if you don't own a software house.
- Cannot cope with undocumented Z80 instructions.
- Parts of manual could be more informative.

 Q: How many *JR n* instructions can you fit in a word? A: One!

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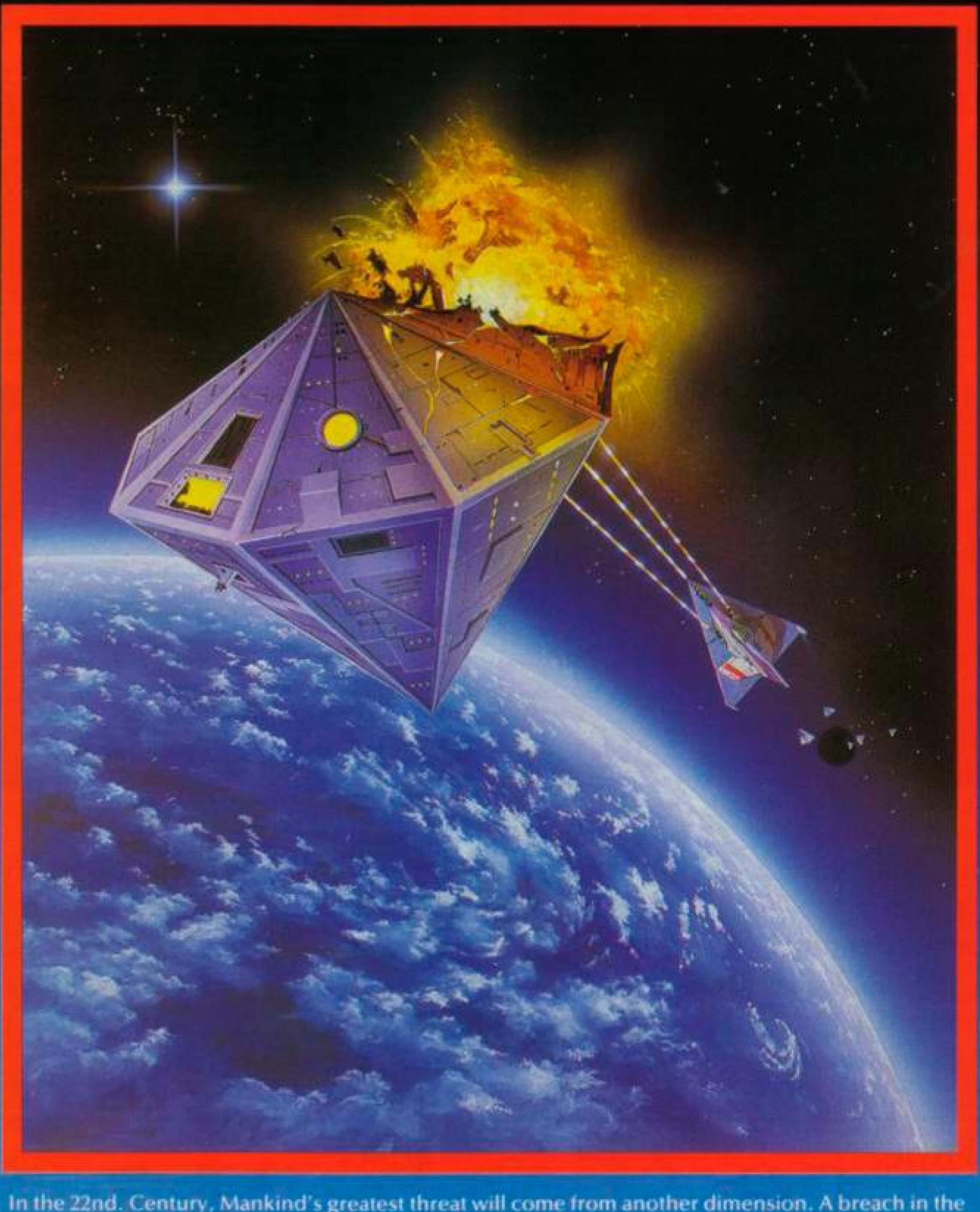
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Doo Dah disk shuffle

Nemesis is meddling with disks again – Pat McDonald tries its new utilities

Bonzo Doo Dah

Nemesis, £11.50 disk only, all CPCs

"Roll up, ladies and gentlemen! For your entertainment, *Bonzo Doo Dah* will balance a stick of rhubarb on his nose while juggling with burning tabloids!"

I'm sorry about that, but this program has tickled my funnybone. *Bonzo Doo Dah* is a disk utility. Its primary purpose is to give you more room on each disk – 203k, no less, which is a sizeable chunk over the standard 178k. It will also allow you to discover (sorry!) just what is on it, and change it to what you want, such as highscore tables and programmers' credits. This is known as hacking disks.

When run, the program presents a menu. Every word from now on is true. If it sounds rather strange, it is because it is strange.

Big K

Bigbonzy is the first option on the menu. From it, you can format disks in any standard format – IBM, Data, System and Vendor – and also in the new, larger format, called Bigbonzo. Once this has been set up, a file of the same name is written to the disk. To use the disk, just run this file first, and all should be well. However, I am not sure that it caters for CPM; the manual has nothing to say. So if want to use CPM as well, be wary of trying to use Bigbonzo format.

(In fact Bigbonzy is the same, plus a few frills, as Richard Monteiro's program *Fastform* and its "BigK" format published on *AA*'s Christmas cassette.)

There is also a rather effective disk clone option. I have little to say, since Nemesis claims this is a byproduct and not a design intent – the idea was to be able to copy the Bigbonzo format only. The fact that it can also copy various commercial games is a twist of fate. Personally I think people will have a field day ripping off disk software, then get bored of having 250 different games to play.

Bonzedit is the second choice on the main menu. From here you can interrogate standard, Bigbonzo and various (though not all) types of commercially protected disks. As a rule of thumb, the older the disk, the more chance *Bonzo Doo Dah* has of coping with it.

Good editing tools

The editing functions are really very good. First off you can get a map of the disk, showing which tracks and sectors are in use. This and many of the functions can be put out to a printer.

Next you can get a file-location map. This is a list of the files on the disk, and each filename has after it a series of double numbers, like this: 03/41. The first is a track number, and refers to which of the 40 tracks or concentric rings the data is stored on. The second is the sector number, and this indicates where on the track the data block is stored. So even if a program has been split into many pieces and scattered all over the disk – you would be very confused if you just studied sectors in sequence – you can use this feature and know just where the different blocks of the program have been placed.

There is also a function to alter the contents of the directory of the disk. This may sound very dangerous, but it need not be with a little care. If you have accidentally erased a file, you can recover it again with this program *if you have not written anything else on top of it*. You can also set your programs to "System"; they will be invisible to anyone doing a standard "cat" or "dir" of a disk. These functions are well implemented and the approach is that you can make any correction or deletion you want to on the screen: the program will not change anything on the disk until you tell it to.

When you want to edit the data on the disk, *Bonzo Doo Dah* again provides you with a safety net. You can select the track you want to edit, and the program remembers as much of that track as you want to change. This means that you can quickly restore a track to its original state. It's a good feature, but if you find you have made a mistake after you have switched to another track, that's too bad, because the program remembers only one track at a time. The moral: be careful despite the safety net.

Search warrant

The last editing option is to search the disk. You type in the string you want to search for – up to 128 bytes long, in Ascii or Hex. If the machine finds that particular sequence on the disk, it gives you the option of going to it under the Track and Sector editor, or to ignore it and search on. You can also jump to Bigbonzy or to the copying routine.

Bonzcopy is a copying program, rather like Filecopy on CPM 2.2. From a list of files you select the ones you want to copy, up to ten at one time. It can handle the maximum standard size of file under Amsdos. It will copy programs onto the Bigbonzo format.

On the rear of the disk is an example of a Bigbonzo-format disk, including some very pretty pictures and a free adventure game. Some of the wit in the graphics is pretty sharp – I especially liked the Amiga lookalike! (Hasn't someone done that before?) Alluding to earlier Nemesis titles, these are labelled "Meddler diversions", and needless to say, they are.

The program's presentation is flawed only by the manual: one piece of paper typed on both sides. It contains everything relevant to the program, and if you know what you are about I doubt if you'll look at it much. Most of the program is self-explanatory – to the informed.

If you want to explore deeper into disk software, you will need a good piece of kit to help you. As commercial disk editors go, this is the best I've seen in a long while. It can't do everything, and will no doubt be superseded someday, but for its user-friendly approach, its sensible price, and its humour, I recommend it.

Nemesis ☎ (0933) 62 3967
10 Carlow Road, Ringstead, Kettering, Northants, NN14 4DW



GOOD NEWS	BAD NEWS
■ Competitive price for a disk editor plus extras. ■ User-friendly as utilities go.	■ Some games (not many) will not run under Bigbonzo format. ■ Can't handle up-to-date protection.

I'm the urban spaceman

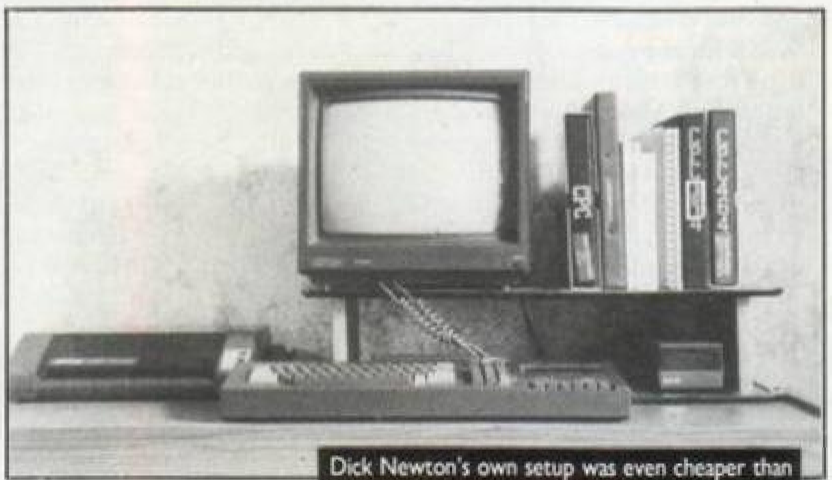
Build a desk

Give Arnold a custom-designed home of his own

Amstrads are rather too attached to their monitors, as Trevor Atkin of Kexby, Lincs, wrote to Reaction 15. Most computer desks on the market don't allow for the short leads. A number of readers have come to the rescue with plans for do-it-yourself desks.

Two tops for the table

An easy and inexpensive solution that just sits atop your existing table came from **Dick Newton** of Tighnabruaich, Argyll. Just buy a six-foot length of Contiplas board from the local do-it-yourself emporium (the width depending on colour or mono monitor), cut it into four pieces and screw them together.



Dick Newton's own setup was even cheaper than Contiplas: he used two old single-bed headboards

"The length of the short pieces will depend on what you want to accommodate in the shelf, but the leads supplied are okay for a spacing which will take two disk drives," Dick writes. The assembled unit can be used on any flat desk or table.

Build your own for under £20

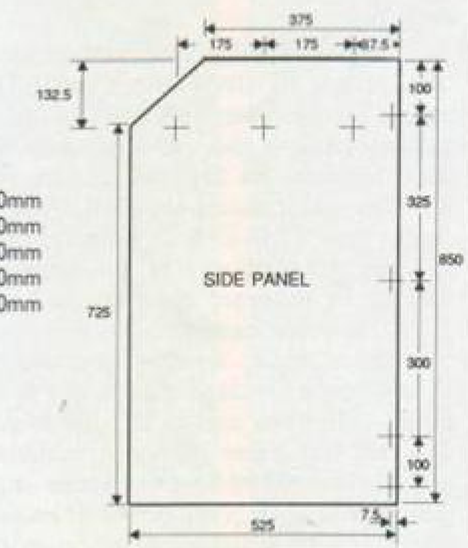
Somewhat more ambitious plans came from **George Farnham** of Dunstable, Beds, who bought his 464 "to help keep the old brainbox active" on retiring from work as occupational-therapy instructor in a psychiatric hospital.

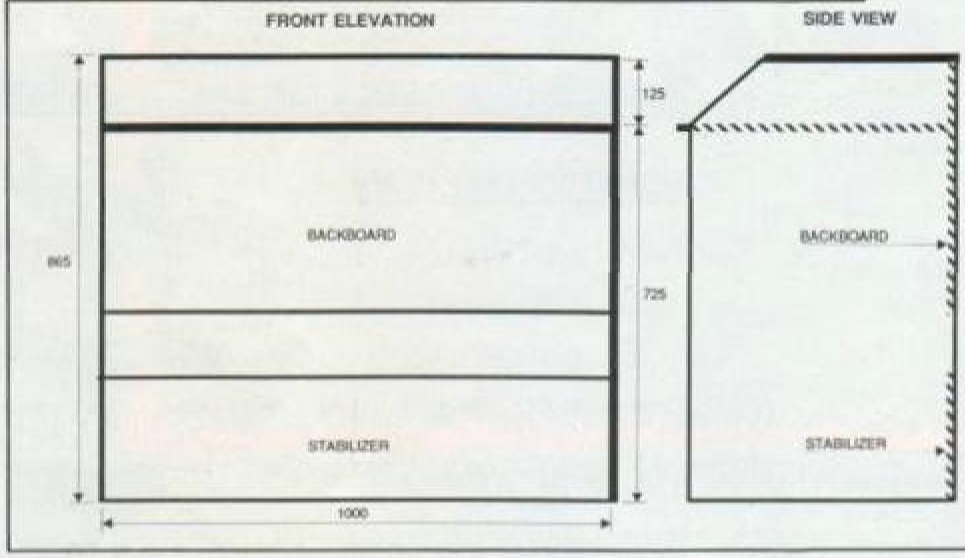
George Farnham's desk:

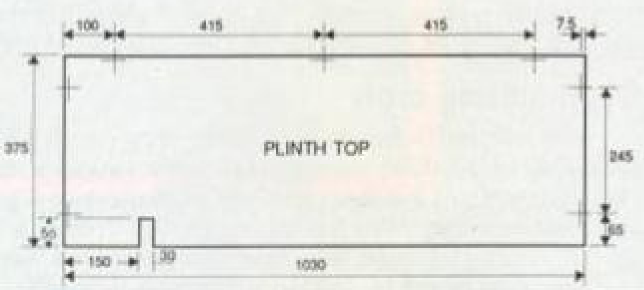
ALL MEASUREMENTS IN MM

Parts required:

2	side panels	525 x 850mm
1	backboard	525 x 1000mm
1	stabilizer	150 x 1000mm
1	table top	525 x 1000mm
1	plinth top	375 x 1030mm







His design took in several considerations: the centre of the monitor should be at eye level; his teletext adaptor stands 60mm higher than the keyboard; and the leads are short. Materials cost a total of £16 from his d-i-y warehouse. He chose imitation-oak boards that needed no finishing (wood veneer would need at least three coats of varnish) and also bought screws, screw covers and iron-on edging. How-to in his own words:

"First I marked out the panels ready for cutting. I marked out from each end of the boards, as this gave me one straight square edge on each panel. I then scored each of the cutting lines with a sharp knife, which makes sure that when cutting you do not splinter the veneer, leaving a nasty-looking surface. For the actual cutting I used a jigsaw with a medium blade, and I clamped a straight piece of wood across the board at a distance that would let me butt the sole-plate of the jigsaw against the straightedge while the blade was in the position of the actual cut. This gives a straight cut, which is essential for nice-butting joints.

"I also cut a slot in the plinth top to allow the printer's cable and socket to pass through, but I have not put this on the drawing as some might like the cable to pass through the rear of the desk.

"The next step was drilling the screw holes – I used 1^3h64-inch number-8 chipboard screws with brown cover caps.

"Now for assembly. To ensure a good fit, I clamped a piece of wood along the back edge of the side panels at a distance in from the edge equal to the thickness of the material. The side panels were then laid on their sides, and the back panel laid onto the two pieces of clamped wood. I then used a bradawl to make pilot holes (through the holes in the side panel) into the edge of the back panel, then put in the screws and tighten. The stabilising panel was fitted by the same method. Stand the unit right way up and again clamp two pieces of wood across the side panels for fitting the table top, and screw it into place. The plinth lies on top of the unit and can be screwed into place, making a nice rigid desk. All that remains is for some edging to be ironed on in the appropriate places.

"Another method of construction, perhaps easier than drilling and screwing the panels, is with rigid corner-joints, available from any d-i-y.

"A number of extras can be added to the desk if you wish, such as a cupboard to store the printer paper and a feed route to front or back of the printer. Electric sockets can be fitted on the table top at the rear, but you would have to drill extra holes for the mains leads. A pull-out table is also a useful item.

"But that is another story. I am willing to give advice. Ring me on (0582) 63768."

Or stash it in a drawer

AA's production editor, Jim Nagel, keeps his home computer in a wide, shallow drawer under the desktop. To type, just pull the drawer partway out. Having keys lower is ideal for touch-typing. The desk can stay as cluttered as it usually is – or be clear for spreading out papers. Furthermore, all dongles and cables are out of sight, and the closed drawer deters dust and maybe even thieves.

Extension cables are needed, of course, to stretch out the back of the drawer to the monitor, which sits on a shelf above the desk. Jim salvaged his drawer from an old wardrobe. It slides on a simple wooden framework screwed to the bottom of the table, with enough clearance to allow ventilation. *AA*

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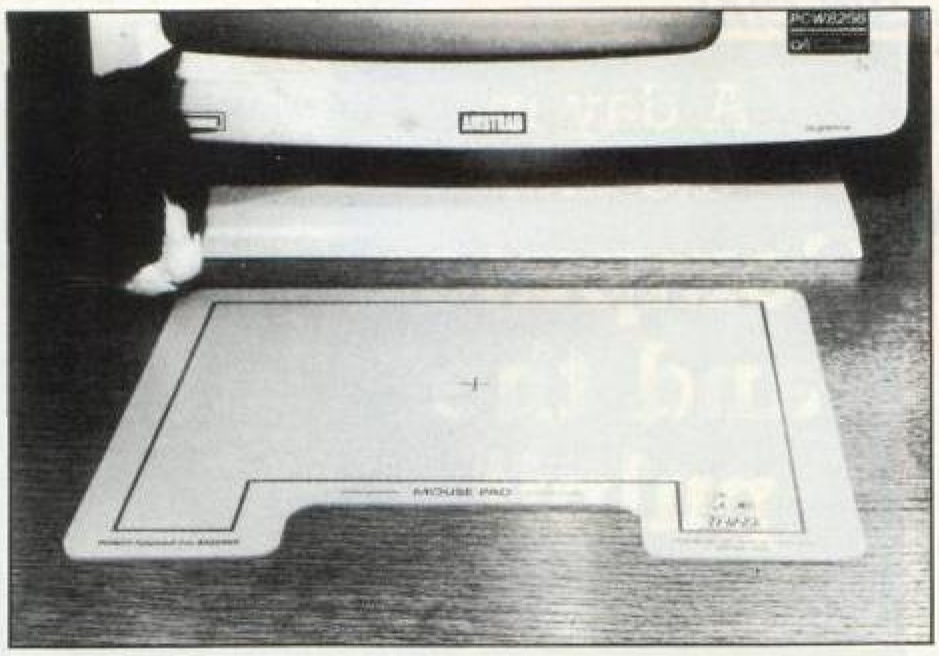


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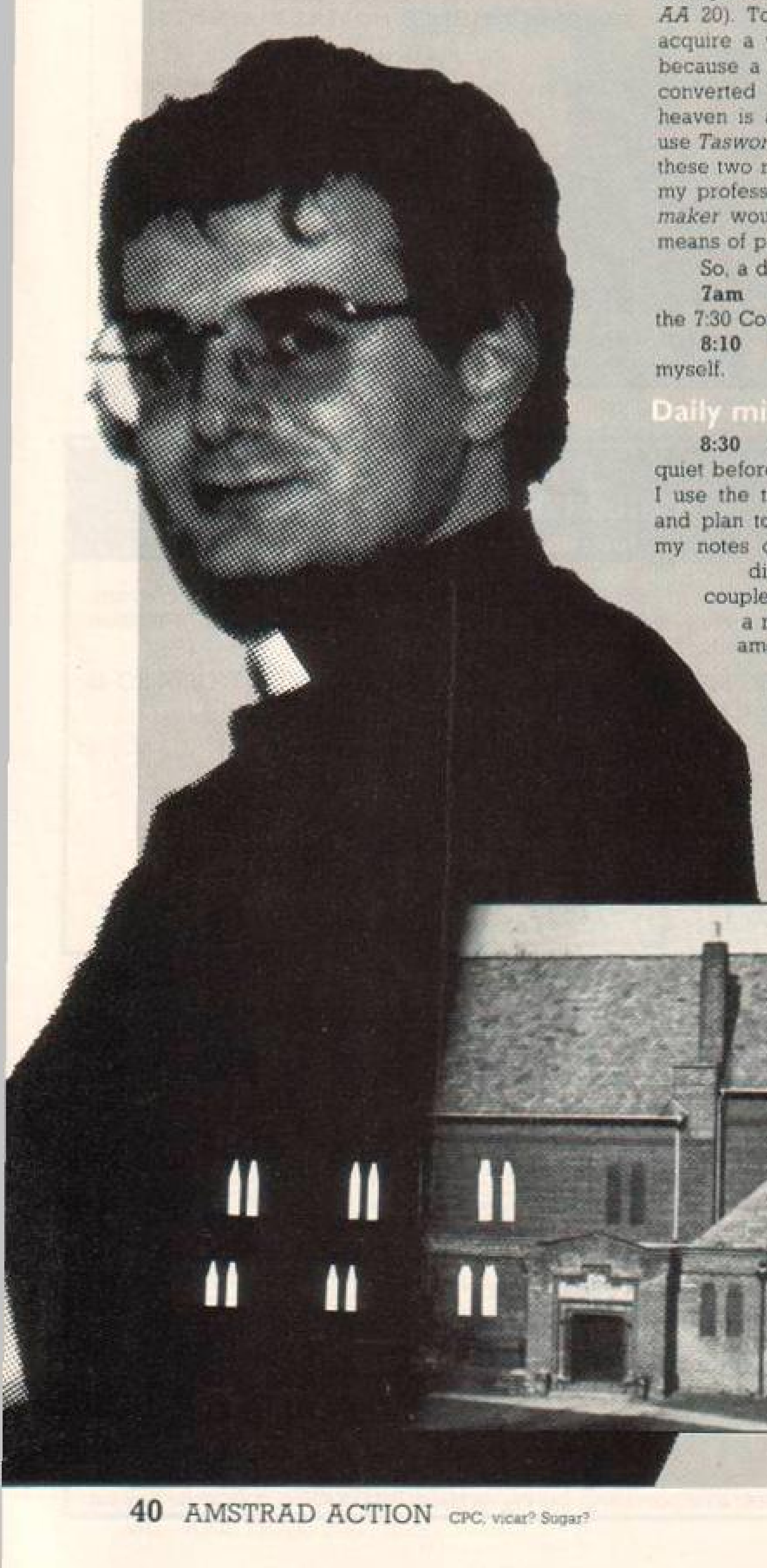
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A day in the life: Computer and the pulpit

Whitsun is a good season for Revd Paul Dawson to tell how he uses his 6128: he's curate at Church of the Holy Spirit, in Dovecot. This area of Liverpool is a 1930s council estate with 12,500 population and high unemployment and crime figures. Paul is 26, married and lives in a draughty flat.



In writing an account of a day in my life there are a couple of things I should make clear. First, there is no such thing as a typical day in the life of a clergyman. Second, I originally bought my 6128 because I didn't know anything about computers and I wanted to learn. But I must admit that while a computer isn't absolutely essential for my job, my Big Idiot has become a faithful ally in work, rest and pray (sorry – play).

On clergy pay I compute on a fairly tight budget. Aside from my 6128 and green screen I have a mains filter, a joystick and a DMP 2000 printer (or is it a 3000? I have just read *AA* 20). To expand my hardware I hope to acquire a wide-carriage daisy-wheel printer because a lot of my written work has to be converted into stencils. (And my idea of heaven is a modem.) In terms of software I use *Tasword* and *Mini Office II*. Between them these two relatively cheap systems handle all my professional needs, although *AMX Pagemaker* would be a boon if only I had some means of printing its results in bulk.

So, a day in my life:

7am Open the church and prepare for the 7:30 Communion service.

8:10 Back home. Feed the cat, feed myself.

Daily mini-office

8:30 Office hour. A time of peace and quiet before the phone and doorbell go mad. I use the time to record yesterday's events and plan today's. I use *Tasword* to write up my notes of last night's meeting. We were discussing a new leaflet to help couples planning their wedding and also a new order of service. Both need amending. Using a word-processor means I can revise the fees in the marriage pack and correct my mistakes in the service without needing to retype the whole draft copy all over again. That done they are ready to be printed. I also print my notes for this morning's management-committee meeting of our local resource agency for unemployed youngsters.

Exit *Tasword*, enter *Mini Office II*. I use the database facility to keep track of my visits around the parish, and also to organize my monthly communion round to the housebound. Since these lists are always changing, a database saves me hours of pen-pushing. I use the spreadsheet to keep track of my expenses. At the end of the financial year that will save me a lot of time, worry and (hopefully) money.

9:30 Attend the management committee for the unemployed resource agency.

10:45 Return home. Place notes from meeting on desk to be recorded later.

11:00 Out visiting. I have several people to visit today. Obviously the details of those visits do not appear here. But that confidentiality raises a point: the 1984 Data Protection Act, a copy of which resides alongside my monitor. The only information about individuals which may be kept on computer without the need to register are data maintained for accounting purposes only and names and addresses held for mailing purposes only. Fortunately, due to the unique position of a clergyman in relation to his diocesan bishop most clergy are covered. (Under the Church of England's canon C14 a bishop has authority over his clergy in all pastoral matters and can therefore make a block registration.) But many other computer-using individuals could end up playing *Jailbreak* for real!

It stands written

2:30pm Sermon-writing time. I always write my sermons out in full. One, it makes them shorter; two, it makes me think more; and three, when I upset people they can read what I actually said and not what they think I said. I use *Tasword* again. It does nearly all that I want, though I find its menu commands a bit clumsy, and I can't stand the *Mini Office II* word-processor. I always turn off the right-justify for sermons; it makes the text easier to follow.

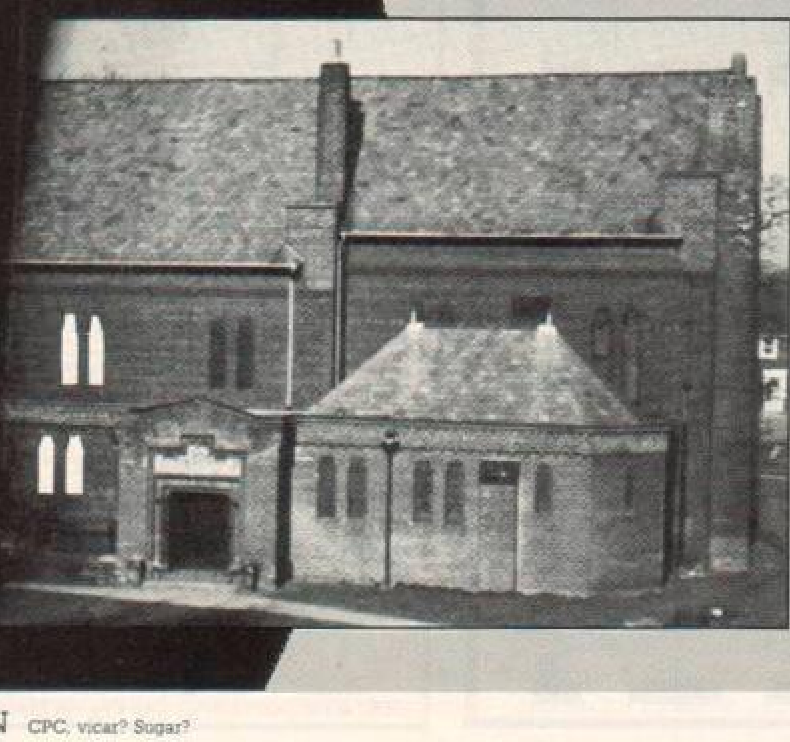
5:00 I store the first part of this week's masterpiece (?) on disk while I say Evening Prayer. That chapel is freezing!

5:30 Finish off sermon.

6:30 Dinner. Feed cat again.

7:45 Another meeting. This time it is a study group looking at the history of ancient Israel. I prepared all the handouts and information sheets on my 6128. How else could I get two thousand years onto a sheet of A4?

10:00 Home. Time to blast a few Thargoids – even clergymen get aggressive sometimes. I'm up to Deadly, I'm filthy rich, I've got a clean licence, and naturally I've been made a member of the Angels of Mercy. From Archangel Dawson – good night! **AA**



If you are using your Amstrad CPC to control your train set or run your business (the Big Bang! the army?) or play in a rock'n'roll band or anything else you might like to tell us about, write to "Day in the Life", *Amstrad Action*, 4 Queen St, Bath, BA1 1EJ. We pay good rates for good copy.

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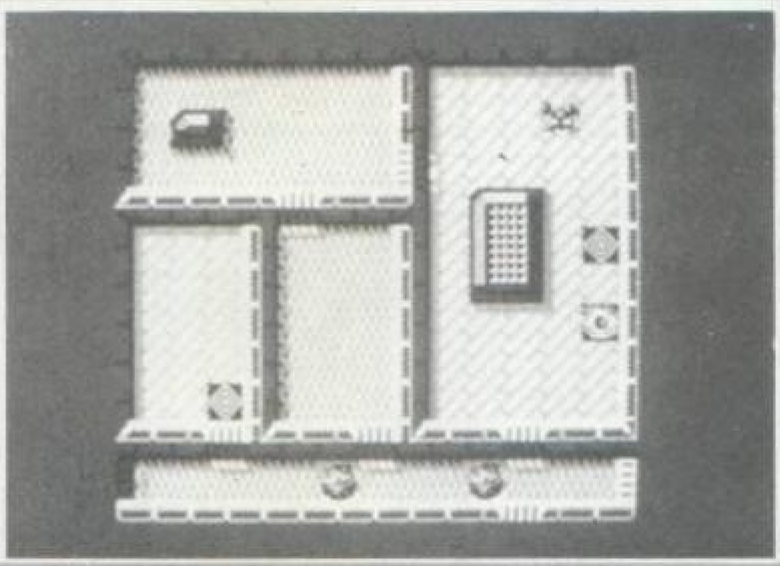
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ACTION TEST

MASTERGAME



RAVES

GAMES TESTED

A Rana-way winner

Ranarama from Hewson is the Mastergame, a deserved accolade for the author Steve Turner. It's a fantasy romp through the seven levels of a castle in a *Gauntlet* derivative that's packed with great ideas and exciting gameplay.

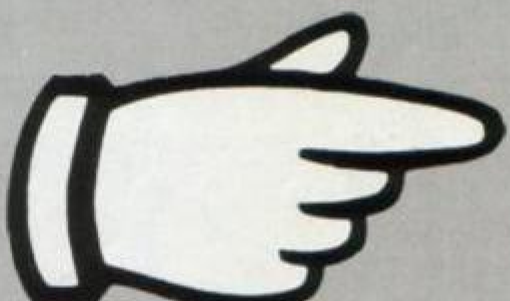
It will probably be the first time you've ever played a frog. He's trying to return to his normal human shape and has to do battle with hordes of enemies and the powerful sorcerers. This one's got lots of depth to discover; it takes this game format to new heights.

The rest of Action Test is dominated by a rash of excellent strategy games and foreign imports. The strategy games range from the distant past in *Legions of Death*, where the Romans do battle on the seas with the Carthaginians, through the recent past in *Vulcan*, the Tunisian campaign from the Second World War, to the future and *Nether Earth* where robot war machines clash in a mighty struggle.

The foreign imports are *Prohibition* and *Asphalt*, which will exercise your joystick instead. *Prohibition* really lives up to the term shoot-em-up as you battle gangsters in the streets of the USA. Still in the US *Asphalt* is a road war where you take on all the worst types of roadhogs in your armoured, well-armed lorry.

Originality is hign in *Rasterscan*, an animated adventure. There's even something for sports fans with the long-awaited arrival of *Leaderboard*. It's been well worth the wait. So let's tee off and read straight down the middle of the section that always drives the fans wild.





Elmer Fudd sings Springsteen

LEADER BOARD

Access, £9.99 cass, £14.99 disk, keyboard or joystick

There must have been a lot of development problems to delay this title by so much. It was heralded as a classic on other machines, so now that it's here how does it measure up to those high standards and the other golf simulations on the market?

Leader Board allows one to four players to play – at novice, amateur or professional standard. Once you have chosen how many players, entered their names and chosen which standard, you must select one to four rounds, or 18 to 72 holes. For each round, you must choose which of the four courses you wish to play. The instructions show the layout of each course in detail, with a scale.

SECOND OPINION

A few years back I tried playing golf a few times and never broke the 100 mark. This game rekindled my interest and had me at the keyboard for hours. Its most realistic feature is the rhythm required to get the timing of power and snap. It's very difficult at first, but as you pick up the rhythm it becomes totally absorbing. It's a shame there are no bunkers, rough, trees etc, but it's still a superb game. **BW**

GREEN SCREEN VIEW

Green grass, green water, playable.

A good example of the variety and difficulty of the game is the second hole on the third course. As with the majority of holes, the pin is directly in front of you. The hole consists of islands surrounded by water water everywhere – imagine a golfcourse in Venice.

There are no worrisome bunkers to dodge on this or any other hole. Obviously the designers thought bunkers an unnecessary addition to this already complex and difficult simulation. *(Or there wasn't enough memory – Ed)*

Anyway, back to our example hole. There are four islands. The first is the one with the tee. The second and third islands are equally spaced apart; the fourth island is the one with the green on it.

The island with the green is 350 yards away from the tee and 50 yards long. However, from your array of clubs – a driver, a 3 wood, a 5 wood, irons 1 to 9 and a pitching wedge – the maximum distance you could possibly get is 271 yards. Whoops! However, the second island is 100 yards away and 100 yards long. A 4 iron at full power will land you approximately 190 yards up the fairway, a mere 6 iron from the green. The longest and shortest distances for each club are shown in the instructions.

The process of hitting a ball can be split into three sections. First choose the club. Decide the direction by moving a spot, a few feet in front of the golfer, horizontally left or right. Second, decide your power. At the bottom right of the screen is an indicator for power and snap. Pressing the Fire button will start the golfer swinging; the power level will keep increasing until you release Fire. It is recommended that you release the button when the indicator reaches the top of the indicator panel. When playing at amateur or professional standard, the power will start to decrease if you release Fire too late. Once the golfer has reached the top of his backswing, the snap indicator comes into effect. This is the third section. For the shot to go straight, you must press Fire as the club head hits the ball. This is represented on the snap indicator by a horizontal mark in the middle of it. Pressing Fire before will cause your shot to hook, and after will cause it to slice. However, as a novice you will not need to worry about this.

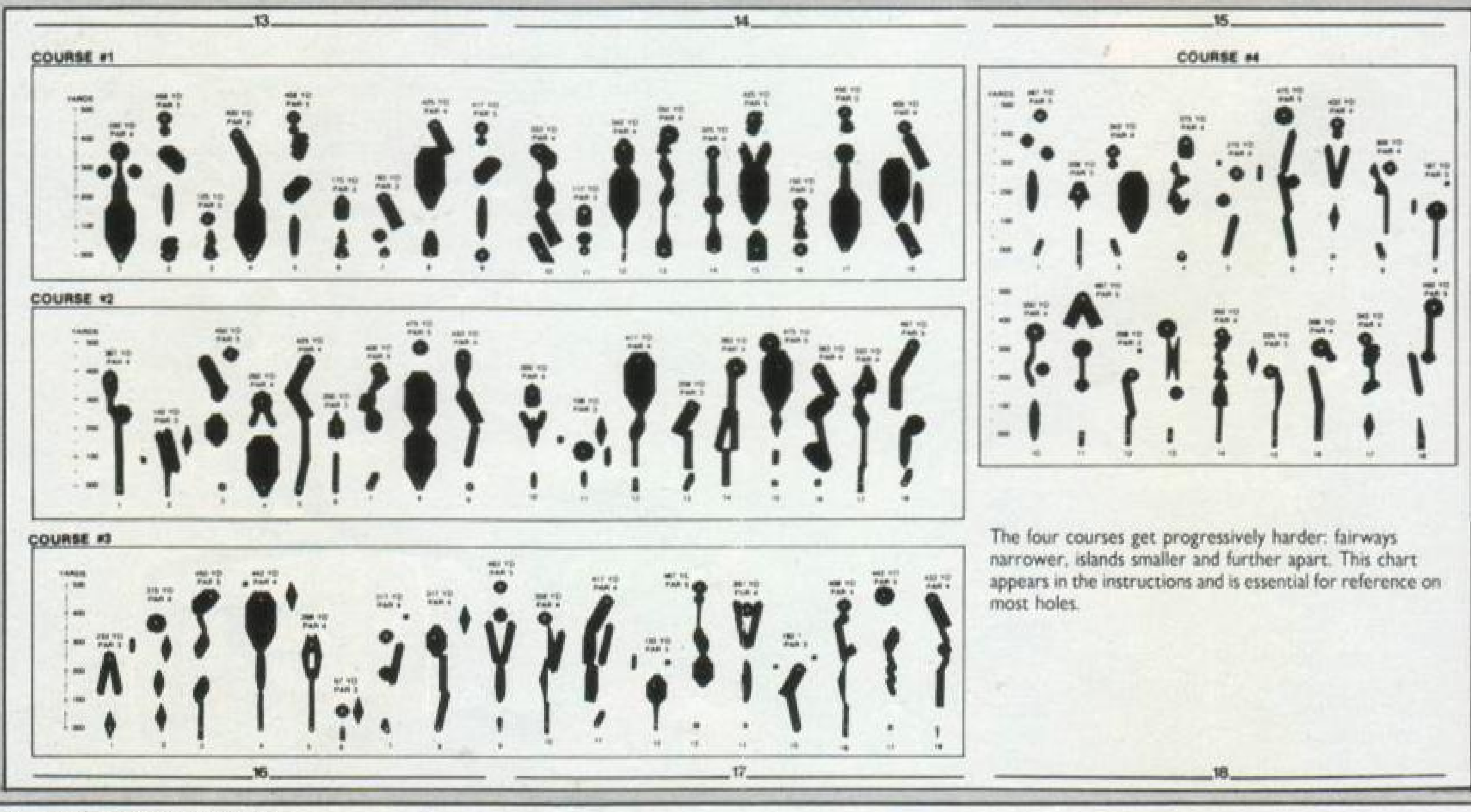
Once you have hit the ball, it will go shooting off in the direction you set. If you are playing at amateur or professional level the snap will take effect, and if playing professional, the wind also comes into play. The wind direction and strength is shown on a wind indicator to the right of the golfer.

If your shot lands within 64 feet of the hole, you must putt. The wind indicator is replaced with one showing the slope of the green – whether the ground slopes up or down from the pin. This indicates which side a putt will break. When putting you must first choose the direction, as with all other shots. Then choose the strength of the putt, in the same manner as an ordinary shot but on a much bigger power indicator. There is no snap when putting.

This simulation game could have been made a lot better by the use of sensible sound-effects and sensible programming. If your shot lands in the water, you will hear a pathetic *kuchh* sound. I'm sure a gentle *plop* or *sploosh* would not have been too difficult. When you sink a putt, if you strain your ears, you might just hear another quiet little *kuchh*. Still, who expects good sound from a golf simulation? Me! Another thing: after every successful shot the screen clears and the course is redrawn. This is slow, and in some cases seems unnecessary. This is done because, as the inlay says, "This is the only golf game where every shot is shown in true perspective."

After all is said, however, the game is the best golf simulation I have seen so far. This is due mainly to the smooth and realistic swing of the golfer and the other small but necessary touches, such as the impressive way the ball can be seen to bounce off the pin on an accurate shot or flip away from the hole if you putt too hard.

One little bug that I found: when I scored a hole-in-one *(He hasn't bought us all a drink yet either – Ed)*, as a novice I might add, the program hung up and I was forced to reset. ... Afterthought: We found we could access the driving range by pressing the R key when



The four courses get progressively harder: fairways narrower, islands smaller and further apart. This chart appears in the instructions and is essential for reference on most holes.

the program asks for the number of players. To exit, hold down the letters R and O and the number 9 simultaneously (sorry – it's the easiest way we could find). **CB**

FIRST-DAY TARGET SCORE
Get under par as amateur.

The Verdict

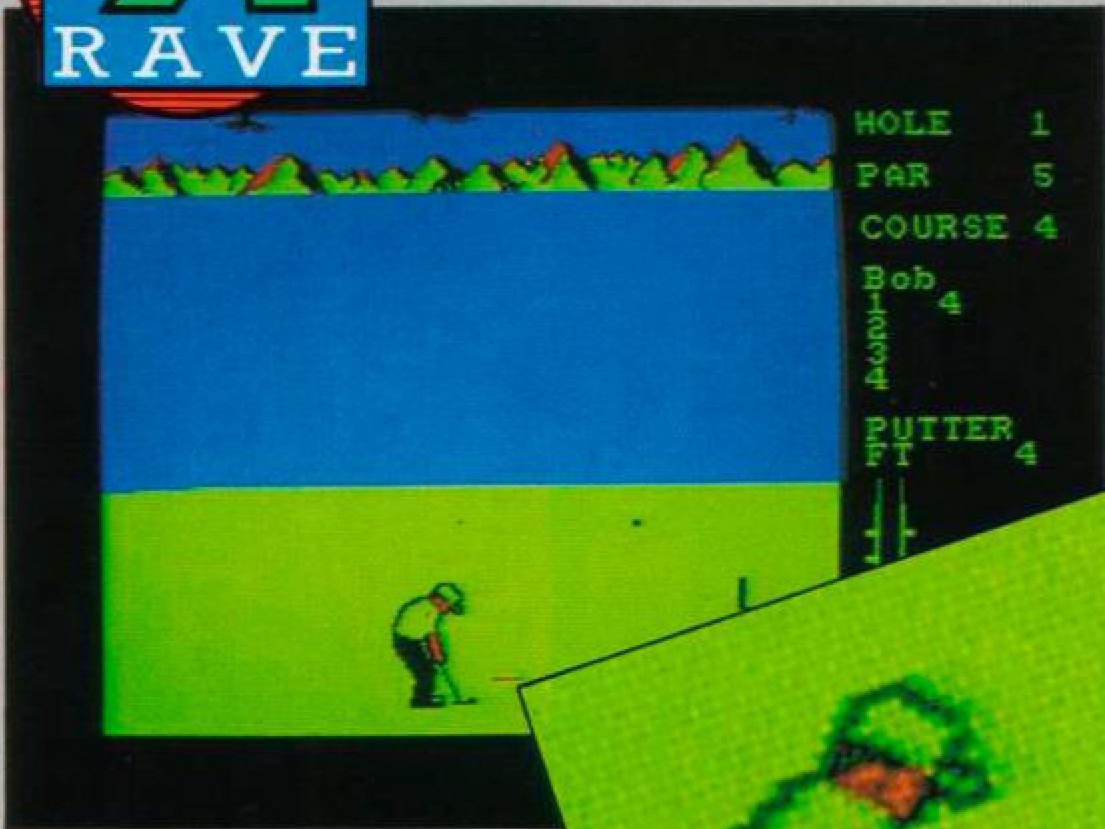
GRAPHICS **72%**
- ☐ Good animation and perspective.
- ■ Slow redrawing of the course.

SONICS **9%**
- ■ Hardly any effects, and poor ones at that.

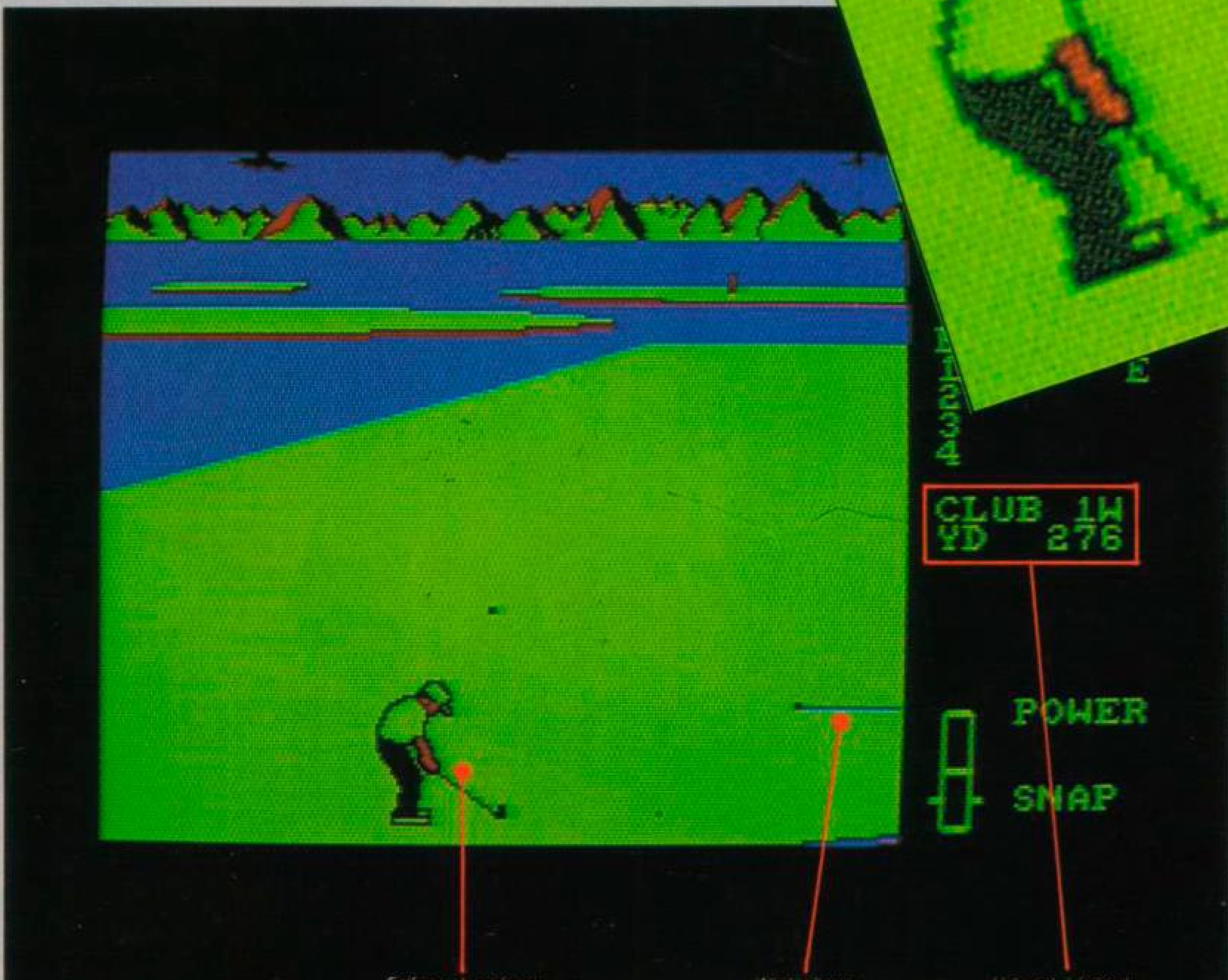
GRAB FACTOR **82%**
- ☐ Variations of skill factor and course.
- ■ Slow – a lot of waiting.

STAYING POWER **86%**
- ☐ Variables in each shot add realism and variety.
- ☐ Four difficult courses to master.

AA RATING **83%**
- ☐ Comprehensive, helpful instructions.
- ☐ Best golf game yet.







Golfer ready at the tee

Wind indicator

Hole and club details

RANARAMA

Hewson, £8.95 cass, £14.95 disk, joystick or keys

Spelling test

There are four general types of spell: power, offence, defence and effect. The latter three are always present in some form, but power can run out and is essential for survival.

POWER: comes in eight levels. It's drained by other three types of spell so it's important you always have the strongest power spell possible.

OFFENCE: determines your type of weapon and also comes in eight increasingly powerful varieties. Particular weapons are effective against particular creatures. As you go through the levels the creatures increase in defence capability as well.

DEFENCE: eight varieties again, this time of types of shield. You'll need better protection as you go through the levels and the creatures get more powerful.

EFFECT: this is the category with the most variety. The spells allow you to do lots of different things like reveal hidden doors, show warlocks on the map, make you invisible and so on.

You can use runes only once, so be careful which spells you cast first. It's no use having an eighth-level offensive spell if it's draining a second-level power spell.

Steve Turner is a real stalwart of the games industry. His first game on the Amstrad was *Dragontorc*, a Rave in *AA* issue 2. Although he's been more active on other computer formats, this new release exhibits his experience and imagination for games to the full. It's most conveniently described as a *Gauntlet* derivative that takes the format to new heights of gameplay and originality.

The hero is one Mervyn, a sorceror's apprentice who, while trying to improve his looks, has turned himself into a frog. You control the unfortunate amphibian and have to hop him through the dungeons of a castle, trying to turn him back into his old, ugly self. The dungeons have eight levels, each populated by all manner of nasty creatures and a smattering of wizards and necromancers.

The object of the game is to destroy all the warlocks on each level by taking them on in ritual combat. More of that later. The dungeons are made up of rooms and corridors, which occupy only small areas of the display. You're placed at random in a room on the first level; from there on it's a real mystery tour. You view the dungeons from overhead and initially can only see the start room. As you move through the doorways other rooms miraculously appear on the display, revealing their contents.

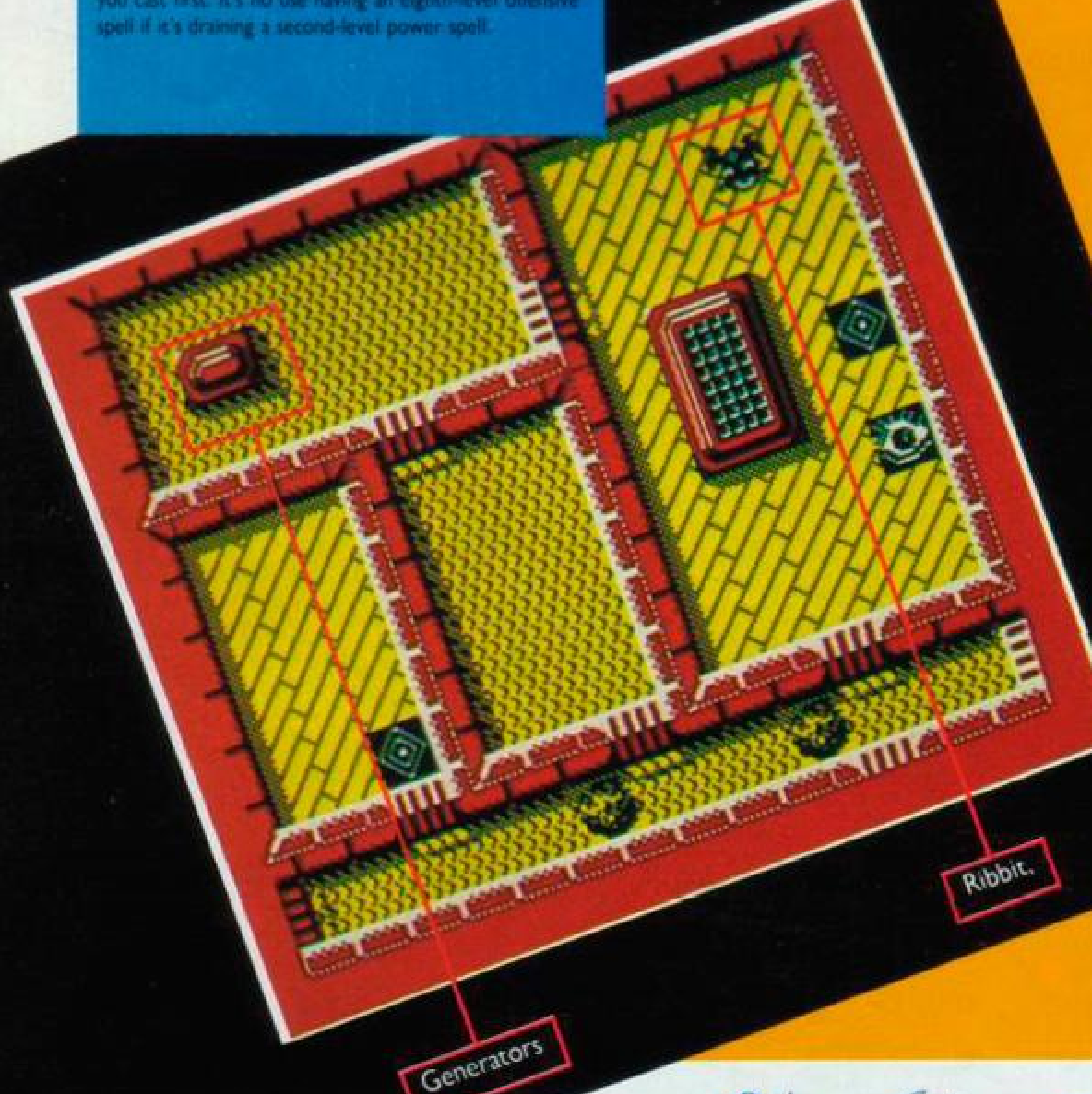
You can see only the creatures in the room you're in. Those in adjacent rooms become visible only when you go through the door. This element of exploration and the unexpected adds a lot to the enjoyment of the game. You might go straight past a crucial room without knowing it, or run headlong into a hornet's nest of danger.

SECOND OPINION

Superb is the only word to describe Rananrama. *Shoot-em-up, hop-along, cast-a-spell and turn-me-back-to-a-prince are elements of this magical game. There are interesting musical ditties and a marvelous show-what's-in-the-room-when-you-enter-it feature. Although a* Gauntlet *clone, it is a worthy contender for the number-one spot. I only wish I could get to level eight.* **RpM**

GREEN SCREEN VIEW

Some features very tough to spot when the lights go out.



When you find a warlock you just have to collide with him and ritual combat ensues. It takes the form of a puzzle that has to be solved against the clock. The letters of the word *Ranarama* are scrambled and you have to get them back into place before the time runs out. This usually isn't too difficult, but trying to think fast and cope with a short deadline puts you under a lot of pressure.

Success in combat results in several runes being scattered about the room. Collect these up before they disappear: they are extremely important to prolonging survival.

Once you've destroyed all the wizards on a level the lights go out. In the inky darkness of the dungeons you have to find the exit – could be a big problem for green-screeners.

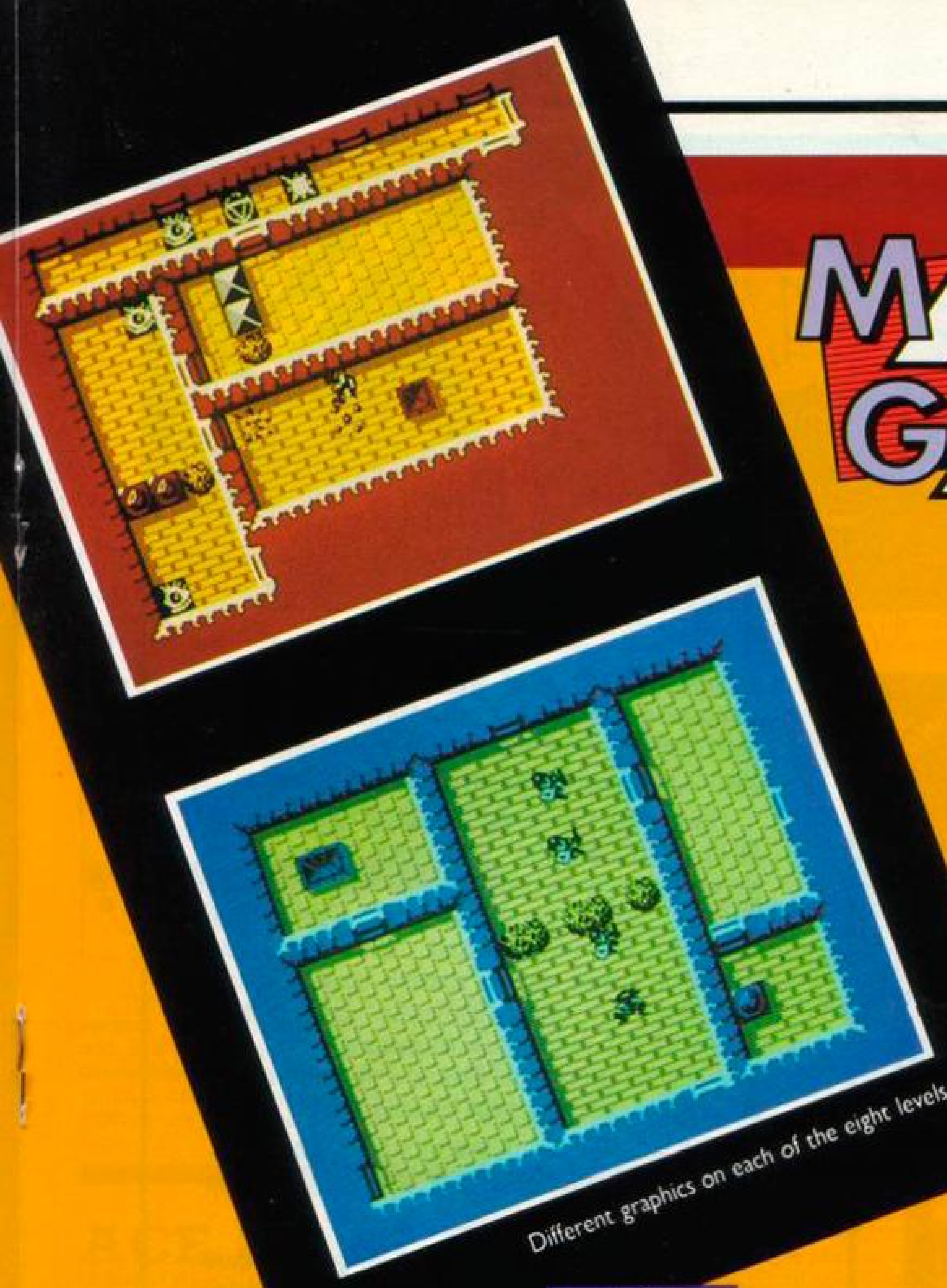
The monsters come in a wide variety: living, dead and magical. They have varying strengths. All inflict power loss when they touch you. Some are created by generators in the rooms, which can also be destroyed. Others just wander around popping their heads 'round the door to see if they fancy a

The evil horde



Dwarf warrior · *Fire gollum* · *Bisect* · *Guardian* · *Death serpent* · *Ghoul*

MASTER GAME



Different graphics on each of the eight levels

bit of battle with you. You can shoot most of them – frog-gob, I suppose.

Most rooms contain symbols on the floor called Glyphs. They come in four types: glyphs of seeing, power, travel and sorcery. The seeing glyph shows you a map of all the rooms you've visited on that level and revealing all exits as well. Power will kill any living creatures in the room with you. Travel operates a lift between levels. There are three lifts on every level, each one connecting to a different level.

The sorcery glyph is where you can use the runes you've collected. It allows you to cast different spells if you have the runes to do it. There are dozens of different spells, mostly of the same nature but with different power requirements and effects (see panel for details).



Glyph of seeing



Glyph of power



Glyph of travel



Glyph of sorcery

Creatures, moving and casting spells costs you power. When you're low, froggy starts to flicker and makes a squeaking noise – you're about to croak. You need to find an energy crystal quickly. And since they're fairly random that could be a problem. You effectively get two lives. The first is a power spell, and when that runs out you're mortal until you cast another one.

By now people are probably starting to moan about the number of *Gauntlet* derivatives on the market. Doubtless this will take some flak on that front, but I think it's unjustified because the format is a wide one with plenty of room for development – which is exactly what Steve Turner has done. The revealing rooms, warlock combat and casting spells with runes makes this a much more absorbing game and less of a shoot-em-up. It's a game that's very hard to stop playing. You can hang on to life, recasting power spells and exploring gradually further, but it's never easy. **BW**

FIRST-DAY TARGET SCORE
Clear first level

The Verdict

GRAPHICS 88%
- Detailed characters and animation.
- Variety of dungeon designs.

SONICS 74%
- Nice musical ditties and sound-effects.

GRAB FACTOR 93%
- The room-discovery element really grabs you.
- Lots of variety of spells, opponents etc.
- *Gauntlet* derivation takes some of the shine off.

STAYING POWER 90%
- Eight levels get very tough.
- The variety of opponents, rooms and spells continues throughout.

AA RATING 91%
- Despite derivation it's highly original.



Arachnae *Gargoyle* *Wizard* *Necromancer* *Munching mouth* *Spinning knives* *Orbiter* *Energy ball*

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BIG TROUBLE IN LITTLE CHINA

Electric Dreams, £9.99 cass, £14.99 disk, joystick or keys

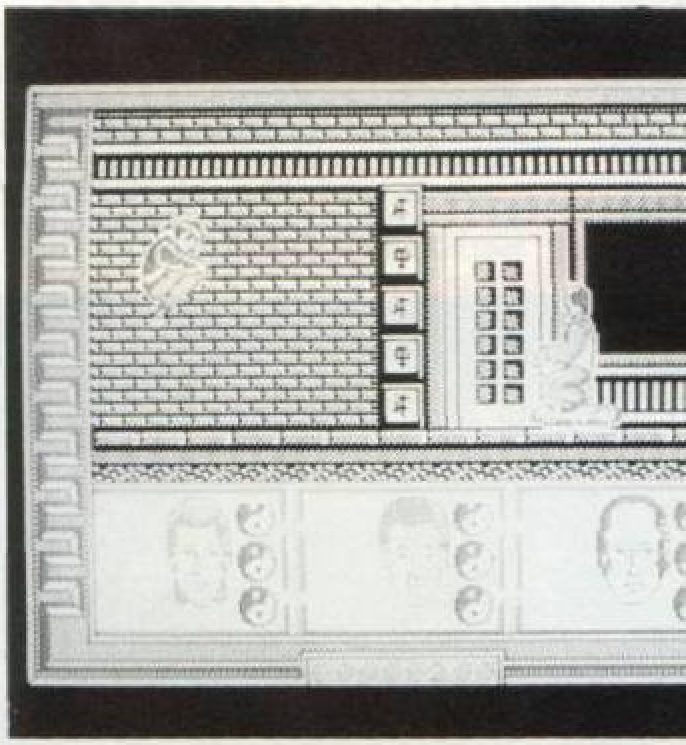
The film got a less than ecstatic reception, so can the game manage to better its poor performance? I'm afraid it's yet another martial-arts bore-us-up, but fans of the genre never seem able to get enough of them. What it does have going for it is multi-character control – not simultaneous, mind.

SECOND OPINION

Even though the film was not a top-biller I enjoyed it. The game of the film will be received less favourably. Too many beat-em-up games in too short a space of time. It has the marks of Electric Dreams' stunning graphics. Even the multi-character option is unique (relatively). But it's not one I shall be dying to play every night. **RpM**

GREEN SCREEN VIEW

Trouble is it's all visible.



The three pals face a troublesome guard

The Verdict

GRAPHICS 71%
- ☐ Large, well-animated characters.
- ■ Backgrounds are dingy and lack colour.

SONICS 57%
- ☐ Good title tunes.
- ■ Few in-game effects.

GRAB FACTOR 60%
- ☐ Three characters to switch between.
- ■ Rapidly gets repetitive.

STAYING POWER 66%
- ☐ Long, hard battle through long scrolling streets.

AA RATING 64%
- ■ Martial-arts beat-em-ups are getting boring.

The plot is that you have to... ahhhh... zzzzzzzz. You control three characters, each with different abilities. You can swap control between them, depending on which is best suited to deal with a situation. Their pictures, strength and objects carried are shown at the bottom of the screen. They line up on the right of the display, the character currently under control leading the way.

You have to make your way right to left along an endless (well nearly) scrolling street, where a constant stream of fanatical guards leap out to try to stop you. The characters don't start with their full capabilities, but one can pick up a gun, the second a knife and the third floats around on a cloud and fires magic bolts.

The guards you meet will mostly somersault, kick and punch. Some appear with knives; others even have guns. This will drain your character's energy – which can be replaced if you can find food along the way. It's a real war of attrition. Later on, monsters pop out of the walls and the deeper you go the nastier the dangers await.

I found the action tedious: just a constant stream of warriors to bump off. The character switching is nice but they could have made more of it. The graphics and animation are good, but just wandering along a street and having the occasional fight can't be considered a great game. **BW**

FIRST-DAY TARGET SCORE

Get through the sewers

ACE OF ACES

US Gold, £9.99 cass, £14.99 disk, joystick or keys

The attempts to modify flight simulators into arcade games with popular appeal continue. This one isn't a million miles away from *Dambusters* in concept and implementation. The question is, is it any better than that disappointing re-enaction?

You pilot a Mosquito fighter-bomber on a number of dangerous missions into enemy territory. The four missions are aimed at V1s, trains, U-boats and bombers. You can take them on individually or in any combination. The more you attempt, the harder it's going to be.

You begin each mission over the Channel; fortunately you never have to worry about take-offs and landings. You can access five screens while flying around. The forward view is where you battle with enemy fighters, bombers and V1s. There are also instruments indicating height, speed, direction, radar and damage. These are generally the first instruments to get shot up by the enemy and aren't crucial to survival.

Side views of the wings are the engineer's screens, where you control the engines, gear, flaps, trim and fuel. If you see one of the wing engines on fire you're in big trouble, but even on one engine you can get home.

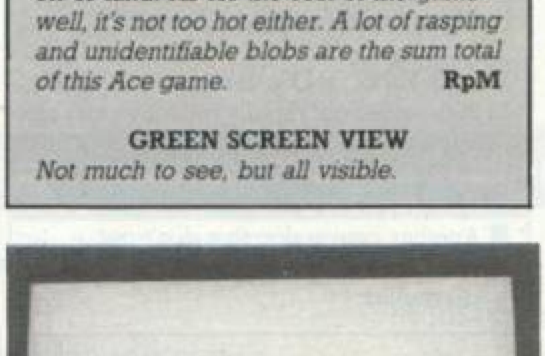
The bomb-bay view is where you choose between two weapon types: cannon or rockets. When you open the bomb doors you can bomb the train and U-boats. You are constantly menaced by fighters which have to be disposed of quickly. Having hit your target you return home just by flying there – no fiddly landings to worry about.

SECOND OPINION

The harder (or is that the more boring) elements of flight simulators have been gradually phased out. For example, in Ace of Aces you no longer have to take off or land. As for the rest of the game: well, it's not too hot either. A lot of rasping and unidentifiable blobs are the sum total of this Ace game. **RpM**

GREEN SCREEN VIEW

Not much to see, but all visible.



Engineer's view of the wing and instruments

The graphics are crude again. Although the clouds and engines look good, the enemy planes are just featureless blobs. It's not a bad game but is lacklustre in terms of the action. It presents a good challenge in terms of finishing missions and hi-scoring. The most annoying feature is multi-loading from tape, which takes ages if you want to change missions. **BW**

FIRST-DAY TARGET SCORE

Complete one mission

The Verdict

GRAPHICS 46%
- ☐ Detailed instrument screens.
- ■ Featureless, boring enemy.

SONICS 37%
- ■ Engine noise and cannon; what else do you expect?

GRAB FACTOR 52%
- ■ Not much action to get excited about.
- ■ Horrible loading for tape users.

STAYING POWER 64%
- ☐ Missions are quite tough to complete.
- ☐ Train and U-boat attacks add variety.

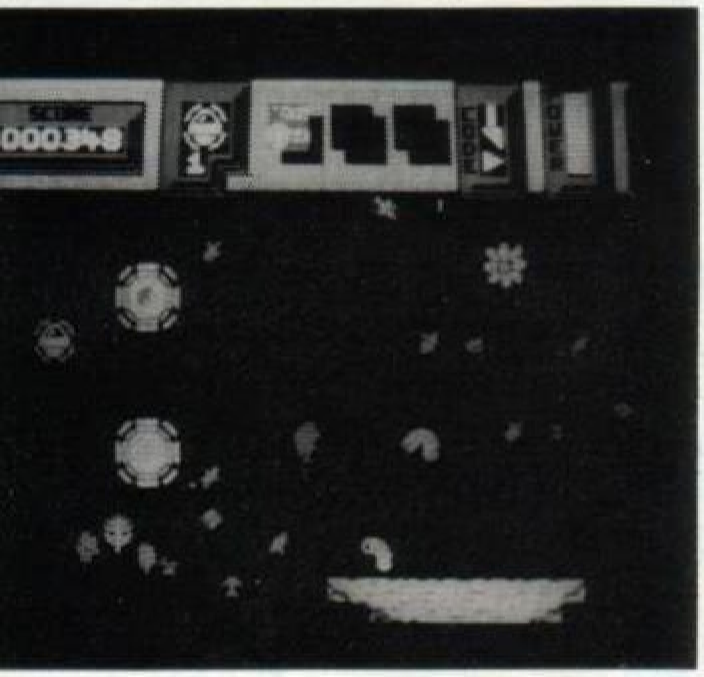
AA RATING 60%
- ■ Another game a little the worse for wear after conversion.

Angels one-five, skipper, tally-ho

KINETIK

Firebird, £7.95 cass, £12.95 disk, joystick or keys

We haven't seen many games, or any other software for that matter, coming out of Germany. Firebird looks to have found one that shows a lot of promise. It was written by Jasdan Joerges and "adapted" (presumably this means converted) by S Lohberg. At first it appears to be a straightforward arcade game, but the control mechanism soon reveals itself to be out of the ordinary.



finish the game. Granted, there are a few aliens to be be shot or avoided, but that's not too hard now, is it? No – but the different gravitational and physical effects on each screen are.

Every time you appear on a new screen you'll find yourself battling a new effect. They range from altering centres of gravity to magnetic points attracting and repelling you. These effects make control very difficult: you'll spend most of the time trying to wrench the joystick out of its socket. The sphere will sometimes shoot off uncontrollably and at others be practically impossible to move in the direction you want it to.

The Verdict

GRAPHICS 64%
- ☐ Detailed, well-animated characters.
- ■ Screens are lacklustre and simple.

SONICS 66%
- ☐ Good tune.

GRAB FACTOR 69%
- ☐ Novel gravity effects are interesting...
- ■ but can be frustrating to control.

STAYING POWER 63%
- ☐ Difficult to master some screens.
- ■ Not enough screens to test you for long.

AA RATING 65%
- ☐ Good to see some German software.

SECOND OPINION

I quite enjoyed the different gravitational effects in each room. Bland graphics and a merry tune balance out to a fairly average game, but it pulls weight in the originality department. If you want to wreck your joystick, then try this. **RpM**

GREEN SCREEN VIEW

Kvick, Klar, Kinetik

There are various energy-draining monsters and some that steal objects you carry. Objects you can pick up include a shield against the enemy, teleport to move large distances, anti-grav unit, anti-physics unit and

The game consists of 44 screens connected horizontally (except for one underground section). You control a rolling ball which can fly, bounce and generally have a good time. All you have to do is whiz through the screens, pick up three objects in the right order and a powder sprayer for shooting aliens. These all help your task but are easily lost.

The movement effects are novel but can be frustrating. On the whole, it's too small a playing area to really provide a big challenge but it should prove enjoyable. **BW**

FIRST-DAY TARGET SCORE
5,000

EXPRESS RAIDER

US Gold, £9.99 cass, £14.99 disk, joystick or keys

This is a conversion of one of the lesser-known arcade machines that takes you back to the bad ol' days of the wild west. For once, you get to play the bad guy – an ugly, mean, gun-totin' villain who's out to rob the fastest express train in the west.

The game has three sections. There's a quick preliminary screen where you fight a banker and some blob dogs (coyotes, I hear you cry). Then it's into the real action, which alternates between battling your way along the train roof and riding on horseback alongside the train.

On the train roof you have to fight your way to the front, overcoming the obstacles that face you on each carriage. The simplest opponent is another cowboy: you just have to kick and punch him off the train. In all fights a strength meter shows you who's doing better. The opponents become much harder; they start to throw and shoot things at you which have to be ducked or jumped in order to get close enough to pulp them. Two more-unusual adversaries are a Big Daddy lookalike who pushes crates at you and a guy who tries to pull you down from below.

When you complete this train you start another one, this time riding alongside on a horse. People pop out from behind objects and windows on the carriages and try to shoot you. You have to shoot a certain quota to move onto the next carriage.

One nice touch is the practice mode and being able to restart where you last died, making it possible to get much further. The graphics are chunky, which takes some of the shine off the game. It's a reasonable game, but I get the feelin' that somewhere in the conversion process the playability got lost. It tends to be repetitive and doesn't get the adrenalin pumpin'. **BW**

The Verdict

GRAPHICS 52%
- ☐ Trains look good and scroll past well.
- ■ Chunky character graphics.

SONICS 47%
- ■ Dodgy tune and a few train noises.

GRAB FACTOR 58%
- ☐ Initially addictive trying to fight along the train.
- ☐ Three modes of play.

STAYING POWER 50%
- ■ Both stages get rapidly repetitive and lose appeal.

AA RATING 53%
- ■ Another conversion that don't get nowhere near the original in graphics or playability.

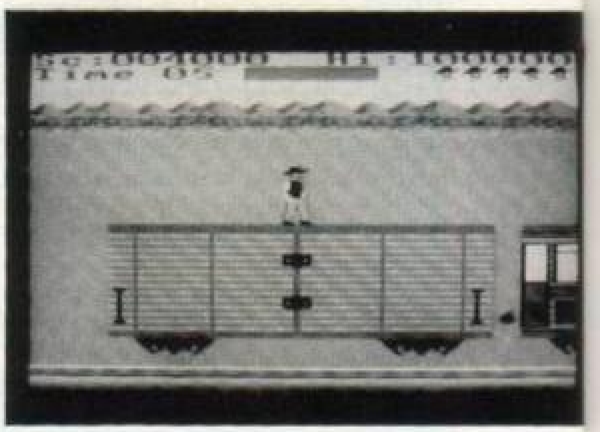
FIRST-DAY TARGET SCORE
Complete two trains (advanced mode)

SECOND OPINION

Having played the arcade version, I didn't expect much when I heard that an Amstrad version was available. However, the graphics are amusing and detailed; unfortunately, the animation has a little to be desired: it suffers from the twitches. It's a great game to while away the hours. The fighting stages are hilarious: the characters look as though they are doing the Highland fling. It's not too tough and it will bring a smile. **RpM**

GREEN SCREEN VIEW

Good in green.



Martial arts on a train roof

Hi-yo Silver, get down Shep

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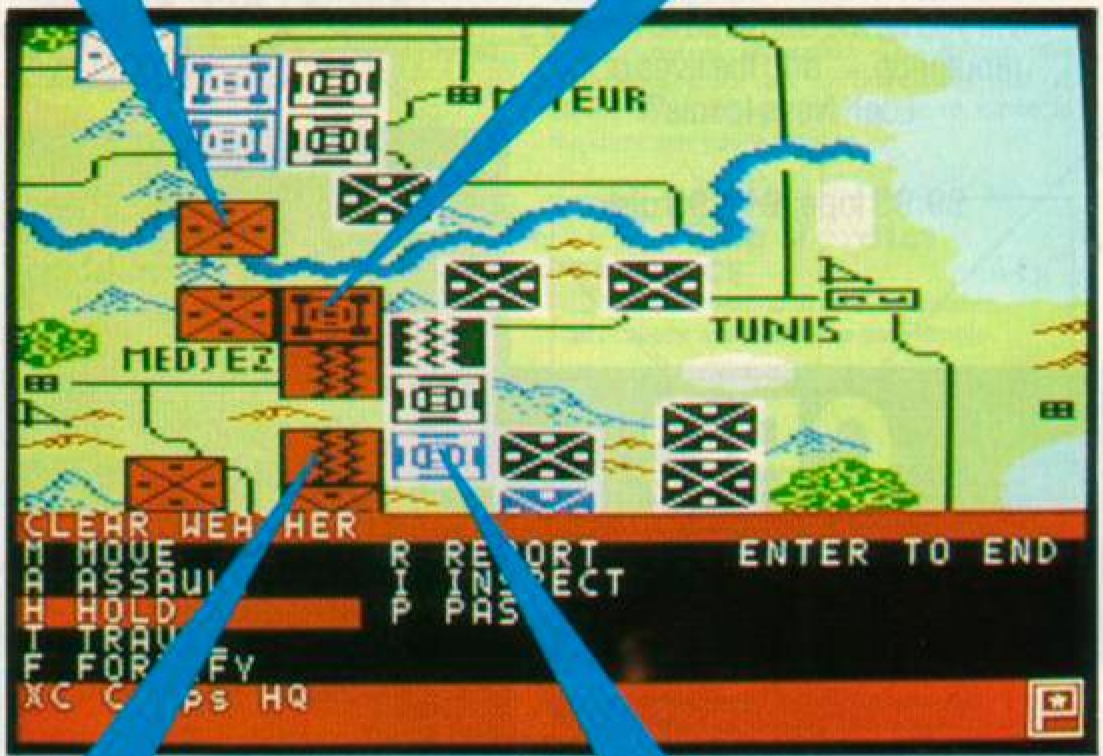
AA

VULCAN: THE TUNISIAN CAMPAIGN

CCS, £9.95 cass, joystick or keys

Allied units from several nations, indicated by different colours

This unit is fortified and will take some shifting



This unit is dug in but not yet fortified

Axis units are also separately identified, German and Italian

CCS has an excellent reputation for war games, with past successes like *Arnhem* and *Desert Rats*. The author of all three is RT Smith, who seems to produce better and better games. The campaign more or less follows on from *Desert Rats*. It revolves around the battle for Tunis and the eventual elimination of the Axis in North Africa.

If you've got *Desert Rats* the presentation, controls and action will all be familiar to you. The game takes place on a large scrolling map of Tunisia, stretching from Tunis and Bizerta in the north to Mareth and Medenine in the south and Tebessa in the west. The terrain is often mountainous and criss-crossed by a network of roads. Both features play important roles in the control of your units.

As with past RT Smith games the "front end" of the game is impressive. You can play with one or two players, the computer controlling Allied or Axis forces with equal skill. The game can be saved or options changed while in the middle of a game, like switching from two players to one against the computer. There are five scenarios that you can play; the shortest will take 25 to 45 minutes and the longest 8 to 16 hours.

The scenarios take you from the first clashes near Tunis in early November 1942 to

LEGIONS OF DEATH

Lothlorien/Argus Press, £9.95 cass, joystick or keys

Lothlorien has come a long way with its war and strategy games. This is its best to date. Past games have re-enacted small-scale military struggles with limited depth, but now we have a conflict on a grand scale geographically, historically and in gameplay.

The game is set in the Mediterranean of ancient Rome between 264 and 146 BC, when the Romans and Carthaginians waged the Punic wars. The game recreates the naval part of the conflict where the aims are threefold: to collect gold, to capture ports and to sink enemy ships – togas and all. The action takes place off the west coast of Italy, the north coast of Africa and around the islands of Sicily, Corsica and Sardinia.

One or two players can take part. You control Carthage in the one-player game. You start with 1000 gold pieces with which to construct a fleet. There are five basic types of ship, but several have two versions. They differ in cargo capacity, hull strength, speed, crew numbers, soldier numbers and, of course, cost. You have to spend your money wisely and try to balance the desires for speed, good fighting ability and large cargo capacity against your budget.

Initially you should find between five and ten ships feasible. In a one-player game the computer will start with a slight advantage. It's not because Hannibal put elephants on his ships, though. The ships have to make their way between ports collecting gold and return-



Yo-ho heave-ho, what a time to get seasick



You've got the ship, now you have to equip it

the final battle, Operation Vulcan, in April and May 1943. Each scenario has different victory conditions relating to the capture of towns and airfields in that region of conflict. The option that covers the whole campaign is just a straight fight for control of Bizerta and Tunis - winner takes all.

The computer controls the appearance of units on the map. Once they're there you can give them a number of orders. *Move* allows you to do just that. *Assault* is the same but more aggressive. *Hold* instructs the unit to dig in. *Travel* allows rapid movement by road. *Fortify* digs the unit in more strongly. *Report* gives information on the strength, movement capability, supply, morale, attack modifier, efficiency and fortification of a unit.

Much of the strategy and tactics required can be gleaned from the excellent instruction booklet that includes historical notes on the campaign. Experience is the best guide, helped by the fact that getting into the action is surprisingly easy. Among the new features in the game are hidden movement and air attacks.

Hidden movement is optional for a two-player game but always exists against the computer. This adds a realistic edge as you can't be sure about the enemy's movements unless in contact with them or after recconaissance by air. The air section is very simple, allowing attacks and recce but is a welcome addition.

The combat rules are detailed, all handled by the computer of course - you just have to decide the units orders. That requires plenty of thought and planning. Considerations of supply are most important to keep your units at their most effective; so are reinforcements, withdrawals, terrain and unit types. For a succesful campaign you'll have to consider all of these when controlling units, although a more simplified approach can be taken if you don't have the patience.

I enjoy this type of game because it allows you to get straight into the action without any trouble at all, but can satisfy the need for depth, strategy and detail as you progress and tackle longer scenarios. The graphics are functional - a good scrolling map and clearly identified units.

This is the best yet from CCS and RT Smith. I'd like to see them move on from the Second World War and tackle other projects, maybe delving further into the past or even into the future. **BW**

SECOND OPINION

Another high-quality strategy game. It has many options nicely presented, including some for short games that let you get the feel of things. It may be a little confusing to start with, but stick it out. It gives hours of battle which I, for one, thoroughly enjoyed. **RpM**

GREEN SCREEN VIEW

Fine.

FIRST-DAY TARGET SCORE
Win first scenario

The Verdict

GRAPHICS 57%
- ☐ Well-drawn map and good unit design.
- ■ Scrolling is jerky and slow.

SONICS 15%
- ■ Rat-a-tat-tat and little else.

GRAB FACTOR 78%
- ☐ Easy to get into, with short starter scenarios.
- ■ Maybe too many options, confusing the beginner.

STAYING POWER 84%
- ☐ Lots of scenarios and game lengths.
- ☐ Depth, strategy, tactics and detail.

AA RATING 82%
- ☐ The best yet from CCS and RT Smith.



the war effort and build more ships. Ports gradually build up their gold reserves but you must be careful not to overuse one.

The game is controlled using a series of icon menus. These allow you to give orders to each of your ships. You can determine their course and speed, remembering that they take time to change speed and course. These ancient dreadnoughts lumber the oceans powered by oarsmen with more muscles than Arnold Schwarzenegger and, if they're lucky and the wind's blowing in the right direction, sails.

When these dinosaurs of the sea collide they can do each other's hulls a lot of damage. If either party was able to afford a "corvus" then the ships can "grapple" and a much bloodier battle takes place. Archers use a tower (again only if you bought one), marines board each other's ships and poor oarsmen get generally sliced up. Unfortunately - or fortunately, depending on your stomach - you don't see any of this but just get the grim statistics of death.

If a ship receives too much hull damage it sinks without trace. Grappled ships will be scuttled if they lose all hands, the cargo being transferred to the victor. Just try not to sink a ship that's grappled to another of your own: it may stay attached and you can't move it. This situation will eventually right itself if you grapple long enough but it's annoying.

Ships that survive these encounters will feel as if they've been in for ten rounds with Mike Tyson. If they can avoid more trouble and get back to port you can repair the damage at some little expense.

SECOND OPINION

A decent strategy game. Good use of colour, standard graphics and icon-control thrown in. But strategy games are not meant to look pretty: they are supposed to tax your brain and keep you up till the early hours of the morning - Legions of Death *guarantees that.* **RpM**

GREEN SCREEN VIEW

Roman ships are hard to see, but still playable.

The victory conditions can be set at many levels. The computer always plays tough and will take an awful lot of beating. For once it's a strategically skilled opponent who balances gold collection and scrapping well. Which is just as well because games can take days to play - not always ideal for two players. There's a save-game option.

The graphics are limited. Even the enlarged ship crashes lack oomph. The icons and map windows are well handled and easy to use. I thoroughly enjoyed it, making a nice change from the usual strategy or war games. It's very nicely presented and, despite inaccuracies in the instructions, easy to play. You'll find it a real challenge to overcome the computer, but then after all it took the Romans 120 years to beat Carthage - can you hold out as long? **BW**

FIRST-DAY TARGET SCORE
Destroy 10 Roman ships

The Verdict

GRAPHICS 48%
- ☐ Well presented icons, menus and windows.
- ■ Ships and movement rather basic.

SONICS 12%
- ■ Try whistling over the beeps.

GRAB FACTOR 77%
- ☐ Easy to get started and lots to do.
- ■ Slow going in all stages.

STAYING POWER 87%
- ☐ Good computer opponent.
- ☐ Tactical skill and planning required.

AA RATING 82%
- ☐ Original idea for a strategy game.

MARTIANOIDS

Ultimate, £9.99 cass, £14.99 disk, joystick or keys

Ultimate has been very quiet since it was acquired by US Gold. This is its first new release since *Gunfright* nearly a year ago. The long wait has been for a futuristic arcade adventure where a maintenance robot has to fight off aliens that are invading his ship.

The aforementioned aliens have taken over the brain of your ship, destroying all active parts in their path. It is your job to control the robot and guide programs from the transmitter to the receiver in each section. If the program runs into a disposal chute it will be lost.

Walking into walls or aliens will deplete your energy level rather rapidly. Fortunately for you, replacement battery packs are dotted around the brain.

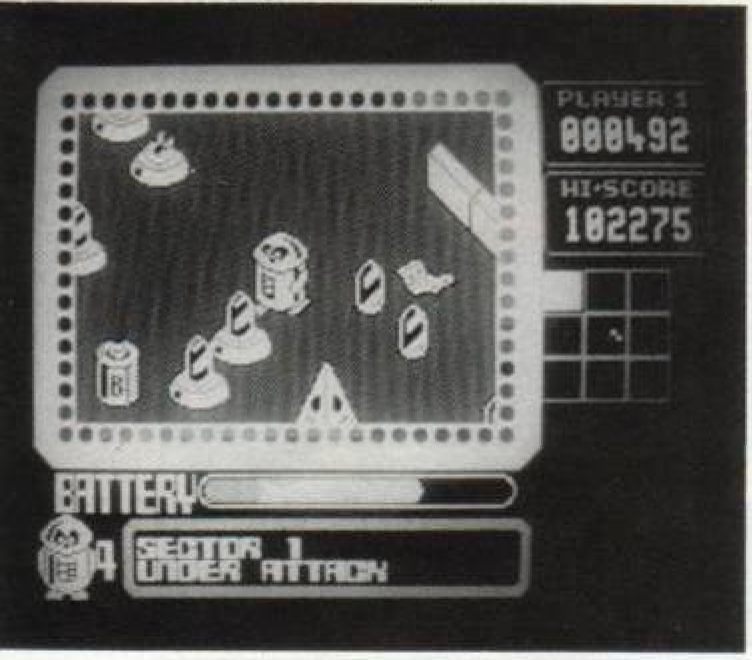
The playing area is a large 3D maze which scrolls as you go around it. It's split into nine sectors, colour-coded to warn about alien activity. Some walls within the brain you can shoot. These and the active cells around the maze can only be shot by your blaster rather than your normal laser.

Much of the skill of the game lies in picking up and dropping cones to guide the program along a path to the receiver. These can be destroyed, so you have to constantly be on your toes.

The scrolling is smooth, the depiction of the characters is clear, the explosions are good, though with little sound to back them up. **CB**

FIRST-DAY TARGET SCORE
20,000

The program lies near to your robot



SECOND OPINION

Why do I get this feeling of deja-vu every time I play an Ultimate game? Okay, you can have variations on a theme, but they've had a year to produce this game and still come up with something that isn't that different from Gunfright *and* Nightshade. *The enemies have changed and the task is slightly different, but it still has the same feel to it. Maybe I'm being a bit harsh, because it is in fact enjoyable to play. Still, I don't like seeing games getting stuck in unoriginal ruts.* **BW**

GREEN SCREEN VIEW

Nice clear view.

The Verdict

GRAPHICS 63%
□ Good 3D scrolling.
■ Single-colour characters.

SONICS 38%
□ Good shooting effects.
■ Sound never was Ultimate's strong point.

GRAB FACTOR 60%
□ Difficult but absorbing task guiding the program.
■ Controls are awkward, could have been simplified.

STAYING POWER 68%
□ Large, detailed playing area.
□ Difficult task to achieve.

AA RATING 63%
□ Ultimate is still skilled at doing 3D graphics.
■ A year's break and they're still producing the same sort of games.

BALLBLAZER

Activision/Lucasfilm, £9.99 cass, £14.99 disk, joystick or keys

Ballblazer is a futuristic ball game, much like *Xeno* but played in 3D. At first glance the game looks very complicated. However, the over-zealous instruction sheet does answer most queries.

The screen is split into two halves, one above the other. The game options include playing against a friend or a computer opponent. The computer option has nine levels of difficulty. You can also choose how long a game you want to play, from 1 to 9 minutes.

You strap yourself into the rotofoil and wait for the ball to be fired into the playing arena. Chase it; get to it before your opponent. Your rotofoil's forcefield will capture it when it is within ten yards of you. It will then snap around, so that you are facing the goal. Move forward until the goal is within your sights, and then fire. Your forcefield will ping the ball in the direction you face. You get points depending how far from the goal you are: the further away, the greater the score.

If your opponent gets the ball, the only way to get it back is to move alongside him, attack him from that side, and press Fire to shoot the ball out of his forcefield's grasp. You must then beat your opponent to the ball. Of course, (s)he can do the same to you while the ball is in your possession.

In my opinion the instructions for this game went way over the descriptive top. Do you really need to know the dimensions of your rotofoil or the measurements of the pitch?

Altogether, though, a good game with lots of speed and bags of appeal. The aspect that appeals most to me is that you can get quite skilled at the capture and goalscoring. **CB**

FIRST-DAY TARGET SCORE
Score all ten goals on level one.

SECOND OPINION

Games like Xeno *and* Room 10 *never quite caught my imagination, although they were competent two-player games. This one is better with really speedy action and exciting gameplay. It still comes down to knocking a ball around and trying to put it in a goal, but in that context it's a good effort. Excellent for those who like two-player games, but don't bank on the computer for a fair fight.* **BW**

GREEN SCREEN VIEW

Clear choice of colours

The Verdict

GRAPHICS 73%
□ Smooth and fast scrolling.
□ Good use of colours.

SONICS 59%
□ Nice futuristic sound-effects and music.

GRAB FACTOR 72%
□ Exciting two-player action.
■ Complicated instruction sheet needs deciphering.

STAYING POWER 74%
□ Nine levels of difficulty.
■ Display can be confusing because action is so fast.

AA RATING 71%
□ Excellent theme for a game.

The rotofoils face each other, challenging for the ball



CURSE OF SHERWOOD

Mastertronic, £1.99 cass, joystick or keys

Sherwood Forest has been taken over by the evil cult of Sagalia. You play the part of Friar Tuck, who must decipher the blood-stained parchment found on the body of the Bishop of Derby.

The first part of the rhyme on the parchment requests you to gain fire protection by finding werewolves' fangs and a scrying glass. Then you must trek through the misty wood until you find the abode of the Witch of Good. Give them to her, and she will give you fire protection in return.

The second verse tells you that if you find the "man of solitary means" he will give you a map. However, this map is hard to decipher, but is meant to help you get safely through the forest.

Tucky makes his way around the forest, encountering all manner of nasty creatures. They shoot at him and he can fight back by throwing swords and, if he finds them, other weapons.

I like this game very much. It has given me many hours of pleasure. It is easy to get into, yet difficult to get out of. I still don't know how the scoring works. I think it works on "tasks done" like the first part of *Short Circuit*. Graphics, although simple and single-coloured, are still ample for the game and do not detract from the overall appeal. Sound is just the standard bang-bang. **CB**

SECOND OPINION

The graphics are reminiscent of Firelord *and superficially so is the gameplay. However, it doesn't have the same depth, consisting just of running around shooting and grabbing objects. It's by the same author as* Con-quest, *Derek Brewster, and apart from the graphics doesn't show much improvement on its gameplay.* **BW**

GREEN SCREEN VIEW

Clear screens.

FIRST-DAY TARGET SCORE

5,000

The Verdict

GRAPHICS 65%
- ☐ Lots of variation in characters and scenery.
- ■ Blocky characters.

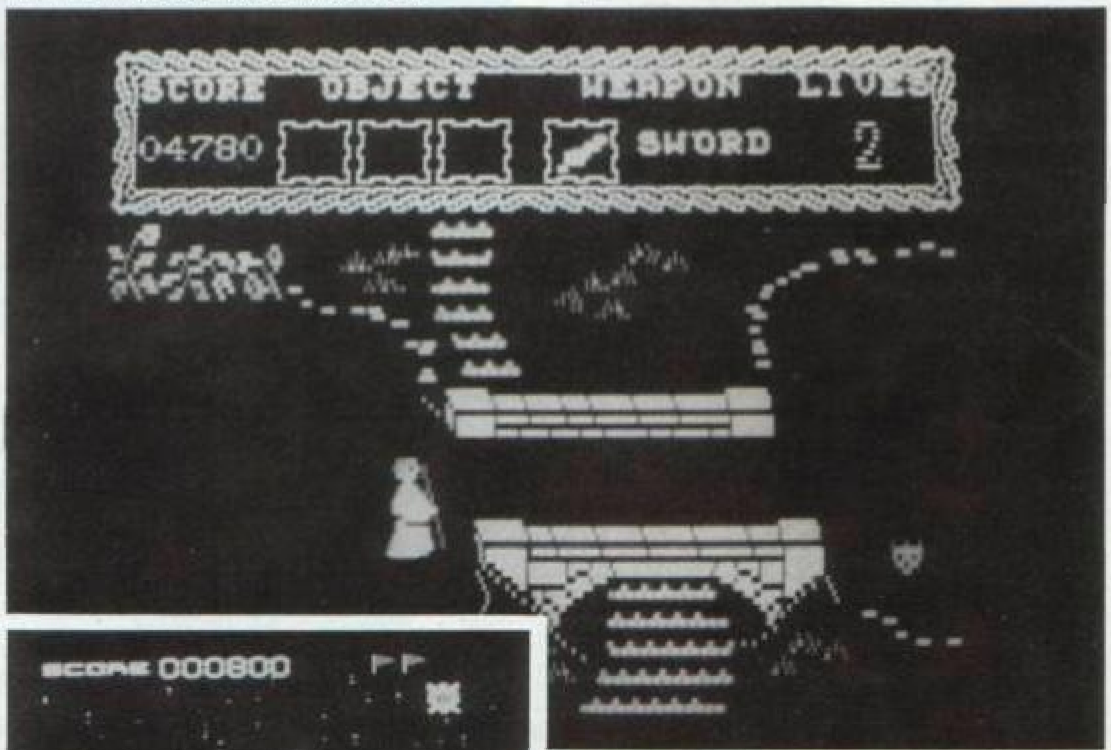
SONICS 39%
- ■ Dull.

GRAB FACTOR 60%
- ☐ Shoot-em-up element is strong.
- ■ Unoriginal gameplay and features.

STAYING POWER 65%
- ☐ Lots of difficult tasks to complete while solving the rhyme.

AA RATING 68%
- ■ Not much more distinguished than *Con-quest*.

Friar Tuck in the depths of Sherwood Forest



SOLAR COASTER

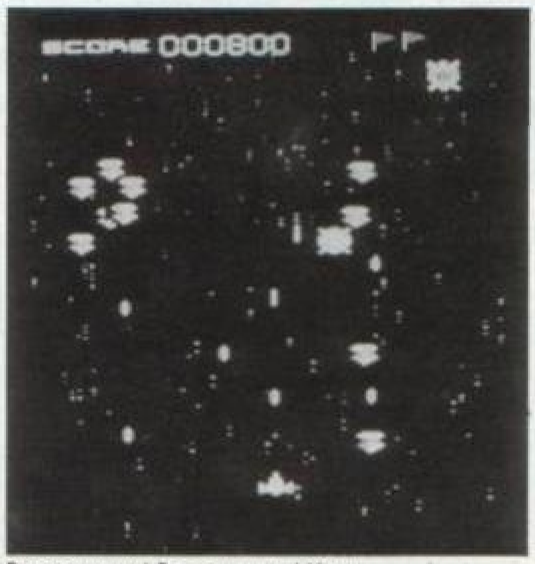
Optyx, £1.99 cass, joystick or keys

Solar Coaster is a fast and furious space shoot-em-up, alien annihilation at its most basic level. Your mission is to shoot each wave of aliens defending their mothership and then to blow that up again.

There are four levels. The first, second and third are pure and simple alien-bashing. They differ in shape and colour from one level to another. They also think up new ways of diving and bombing you.In the first level, the aliens swoop down randomly with varying speed and accuracy. They drop bomb after bomb in their never-ceasing mission to blow you off the face of the universe.

Movement left and right causes your ship to tilt quite realistically. You'll be thankful for the option to thrust it higher up the screen. This can make the difference between life and death.

The aliens on the third level are the hardest to shoot. They form a line of defence and then swoop down at you like holiday-makers doing the can-can at the end of an evening's drinking. The fourth and final level is a mothership almost identical to that in the arcade game *Phoenix*, in that you must shoot through the bottom shield of the ship, despite being bombed by it and pestered by yet more aliens trying to hold on to the last bastion of their civilization. Through that, you must shoot the centre of the ship. If only you could tell them that they will reappear next time round, they might not be so annoying.



Peeooowwww! Peeooowwww! Yawn

SECOND OPINION

It's a passable shoot-em-up for a couple of quid, but it's not exactly breaking the barriers of originality, now is it? This is the major danger of budget software – it can stifle more original games. The full-price labels are failing to exploit this at the moment, producing many shoddy conversions themselves, but if full-price titles are to survive, particularly on the Amstrad, they'll have to buck their ideas up. And I mean ideas.

Back to the game. Ship movement is too sluggish. Result: frequent infuriating deaths when I reacted and it didn't respond fast enough. **BW**

GREEN SCREEN VIEW

Some waves are awkward to spot

Solar Coaster is a very simple game with easy controls. Personally, I get bored with monotonous shooting. But this game is one of the few shoot-em-ups which really tax me. Although after a few games I blew up the mothership, I still found it quite addictive. The most annoying feature is the poor collision detection. I don't like to be blown up when, in theory, I am half a lightyear from the nearest alien. **CB**

The Verdict

GRAPHICS 55%
- ☐ Colourful characters and backdrop.
- ■ Flickery explosion and collision sequences.

SONICS 37%
- ☐ Average shoot-em-up effects.

GRAB FACTOR 56%
- ☐ Addictive like most shoot-em-ups.
- ■ Seen it all before.

STAYING POWER 42%
- ☐ Levels are quite tough.
- ■ Levels are boringly repetitive.

AA RATING 48%
- ■ Very unoriginal.



GRAND PRIX SIMULATOR

Code Masters, £1.99 cass, joystick or keys

Philip and Andrew Oliver are rapidly making a reputation for themselves through their games for Code Masters – a good one. This isn't another perspective racing game but one where you have an overhead view of the action.

Each of 14 different tracks fits into just one screen. You have to complete three laps of the track faster than a computer-controlled car. You can then move on to the next track, where the computer car will have got faster and the course harder.

The tracks are very attractively drawn, with lots of interesting features. Most of the tracks have bridges where the road crosses itself, so that when driving underneath you can't see what's happening. There's also an oil patch which causes wild skidding. Many corners have barriers that actually help you stay on the track, but going off the tarmac will lose you a lot of time.

SECOND OPINION

Fun but so frustrating! Especially when playing with two players. Even more so when your opponent happens to be Sir Bob. Realistic skids, marvelous graphics and speech. All for £2. Excuse me while I try to beat that Wade chappie... **RpM**

GREEN SCREEN VIEW

Even the oil patches show in green.

The cars are just little boxes which are sensitive to the controls. They power-slide beautifully around corners but can often end up headbutting a wall if you stray off line. You've got to follow the correct course – no cross-country short cuts allowed. The computer opponent can balk you and make the task difficult.This is a little unfair when it doesn't seem to trouble him at all.

It's a frustratingly addictive game where races can be over very fast. You always come back for more, and although it's hard to believe at first, you do get the hang of the controls and gradually learn how to master the tracks. It's also got a two-player option where both players have to beat the computer car to qualify. **BW**

FIRST-DAY TARGET SCORE
2500

The Verdict

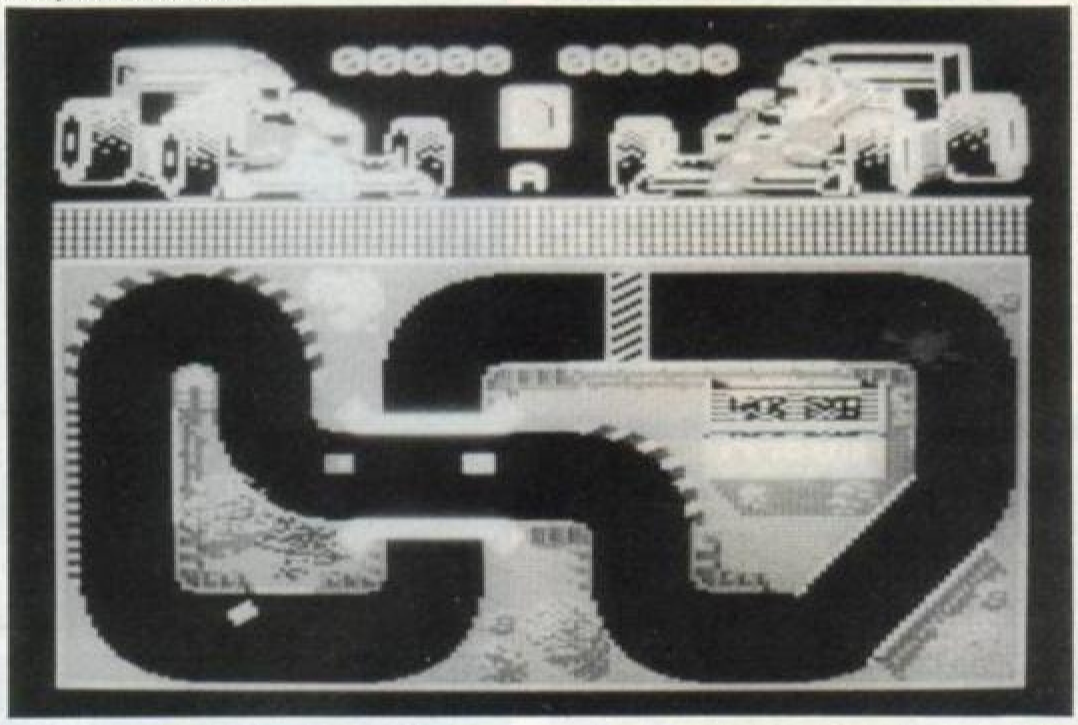
GRAPHICS 74%
- □ Detailed, colourful courses.
- ■ Cars are just squares.

SONICS 63%
- □ Speech synthesis and some music.
- ■ The speech is indistinct.

GRAB FACTOR 76%
- □ Sensitive response to controls is great to use.
- □ It's addictive; you always want one more go.

STAYING POWER 73%
- □ 14 tracks is plenty, and tough too.
- ■ A long hard drive can be ruined by one mistake – back to track one.

AA RATING 78%
- □ Reminiscent of *Street Machine* and just as enjoyable.



SHAO-LIN'S ROAD

The Edge, £8.95 cass, £14.95 disk, joystick or keys

This is the follow-up to *Yie-Ar Kung Fu*. *Yie-Ar Kung Fu II* wasn't because it wasn't the "official" Konami version – I think. So if it wasn't a follow-up, what was it? Confused? I am. There's more martial-art action in this one, which is a cross between *Kung Fu Master* and *Green Beret*.

The playing area is a couple of screens wide and made up of several floors. You have to defeat a number of opponents on this level before moving on to another tougher level. Every couple of levels the background and floor layout changes, but this doesn't have much effect on the gameplay.

You can jump between floors at any point, and so can your adversaries. A swift kick will dispose of them but if they bump into you, it's you that incurs the damage. You've got five lives and lose one every four times you get thumped.

When you kill some men they release a blue sphere. Catching it will give you special powers for a while. These include a spiked throwing ball, fireballs and a protective star. When used properly these can dispatch large numbers of the enemy.

On every alternate level a special opponent will appear who is harder to kill than the others and may have a special skill. Since the level always has to be cleared, you'll have to find a way of dealing with them.

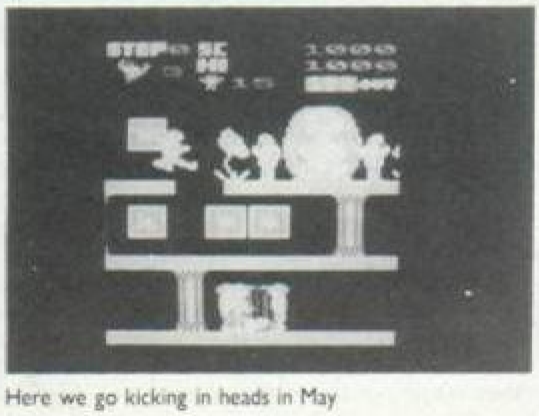
The gameplay is quite demanding from the "run around kicking people" point of view but lacks variety. The weapons bring some interest to the action. A well-worn theme with reasonable graphics and sound but little special about it. **BW**

SECOND OPINION

I think martial-arts programs are a tired subject. It certainly takes much effort to enthuse over Shaolin's Road. Two screens of action, podgy characters and a sore hand are not the ideal ingredients. The gameplay is tough. Sixty kicks in the head is not enough to damp the opponents' spirit. Mine was positively drenched. **RpM**

GREEN SCREEN VIEW

Green enough to play.



Here we go kicking in heads in May

FIRST-DAY TARGET SCORE
Reach new background scene.

The Verdict

GRAPHICS 67%
- □ Pleasant backgrounds.
- □ Large, animated characters.

SONICS 68%
- □ Good tune throughout play.

GRAB FACTOR 64%
- □ Straight into kicking away.
- ■ Small playing area on each level.

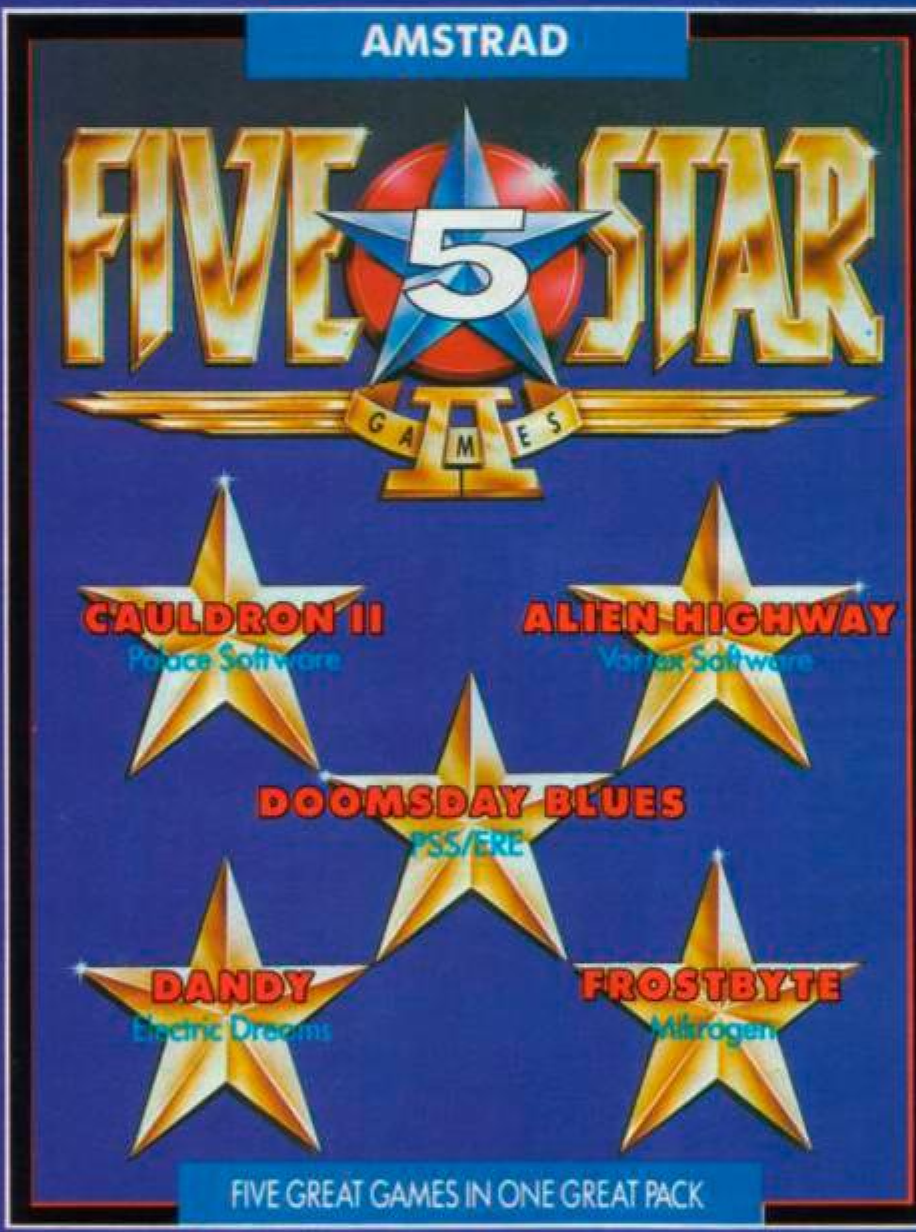
STAYING POWER 60%
- □ Overwhelming odds to fight.
- ■ Little variety to the fighting.

AA RATING 62%
- ■ Lacks originality and sparkle.

Bob Wade's cul-de-sac

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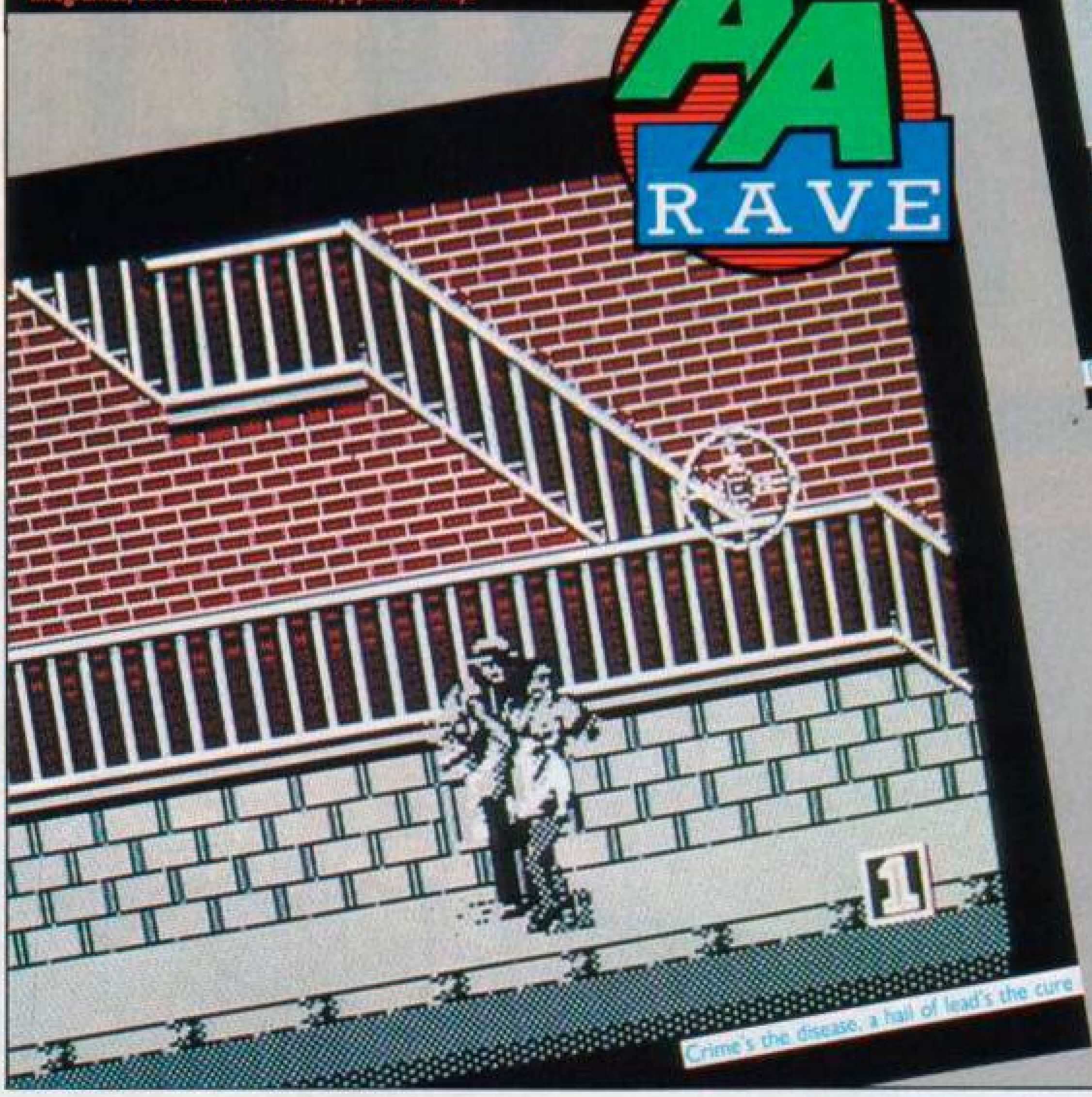
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PROHIBITION

Infogrames, £9.95 cass, £14.95 disk, joystick or keys



Crime's the disease, a hail of lead's the cure



Do you feel lucky, punk? Waste that sucker!

At last for all the 6128 owners screaming for enhanced versions of games comes a disk-based special from across the Channel. It also works on a 464 with disk drive (=664) and memory upgrade. A tape version should also be available in a more limited form, but we haven't seen that yet. We've reviewed the completed game but with French instructions – the English version should be on the streets before the end of May.

The action takes place in a rundown area of New York, where you take on the might of the underworld, all on your lonesome. To do something that suicidal would require a hefty financial reward. Every villain gunned down gets you a reward, with big bounties for gang leaders.

The setting is a very detailed and atmospheric city street. It's a slummy area with derelict buildings, building sites and grotty tenements. They're about three screens high

RASTERSCAN

Mastertronic, £1.99 cass, joystick or keys

Originality is one of the most precious qualities a game can have, so it's pleasing to see that Mastertronic is not only producing excellent budget games, but packing them with originality too. Among this little gem's features are digitized pictures, a strange method of control and some mind-boggling tasks.

The ship Rasterscan has been badly damaged. You must tidy up the mess and stop it plunging into the nearest star. "You", incidentally, are a spherical droid whose only known program is for repairing toasters. That leaves you with an awful lot of work to do if the ship is to be repaired.

A small map of the ship shows your



SECOND OPINION

An odd game to start with. You are left pretty much in the dark as to what your task is. After a few minutes bashing your head against the wall you'll get the gist of things. The spinning ball is extremely well animated. It's nice to see some digitized pictures incorporated into the game. But above all, the game is original and cheap. **RpM**

GREEN SCREEN VIEW

Clear.

and many more wide and, as you can see from the screenshot, tremendously detailed – from the sidewalk with manholes, trashcans and dark alleys to the chimney-stacked rooftops, overhead walkways and windows.

By moving your gunsight you can scroll around this scene, but you won't have long for sightseeing. From behind a vantage point a villain will appear, ready to take your head off with a blast from his gun. To prevent that you have to get the gunsight over the gangster before he can fire and knit a crochet pattern of lead into his body – stitch that, punk.

If the assailant isn't in sight he will be above or below you. However if an arrow appears on the side of the screen it means he's in that direction and you'll have to scroll that way to find him. In either case you need to move fast to find him because a countdown will start; if it gets to the end – you're dead. At first homing in on them seems difficult, but as you get used to the game patterns and hiding places it becomes easier but never easy.

SECOND OPINION

Phenomenal graphics, smooth scrolling, addictive gameplay, jolly tunes: it's a winner. The French certainly know how to create highly original games and make the most of the CPC's features. This is one game I found very hard to leave alone. In fact you are lucky this second opinion got here at all. **RpM**

GREEN SCREEN VIEW

It's mean in green and perfectly playable.

The gangsters come in many different poses, all deadly. When shot they recoil or collapse, marking another victory for civilized society and your wallet. The poses are excellent and slip neatly into the scenes to look very natural indeed. The hiding places range from small basement windows and a tiny figure on distant scaffolding, to full figures crouched or standing in the street. Many pop their heads out of windows or peep over the rooftops. One nasty character even uses an innocent hostage as a shield and has to be picked off very carefully.

Eventually you get to have a go at one of the big guys whose minions you've been happily wasting. They've got several guards to protect them and you need both speed and bullet economy to put them where they belong – in a retirement home six foot under. This gets you a well-deserved bonus before returning to the fray. As you progress you have to cover more and more screens, better hidden mobsters and you even have to get more bullets on target to put them away.

There is one saving grace if you can't find your man in time or he refuses to go down. All you do is hit the "hide" key and you'll get a few seconds extra to turn the target into a garden sprinkler. You can use this whenever you like and stay hidden for some time, but there is a limit to the time you can spend hidden. When that runs out you're wide open to attack.

The game is fast, demanding and addictive. It may seem a little too graphic for some people's liking but basically it's just like one of those old wild-west shootouts. The graphics are superb and so is the music, for which the French obviously have a real flair. A marvellously slick arcade challenge where the good guys may not always get to win, but the bad guys always have massive losses. **BW**

FIRST-DAY TARGET SCORE
10,000

The Verdict

GRAPHICS 92%
- ☐ Detailed, atmospheric setting.
- ☐ Delightfully drawn characters.

SONICS 80%
- ☐ Great tune throughout game.

GRAB FACTOR 87%
- ☐ Easy to start – just blast away at the bad guys.
- ☐ You need speed, accuracy and concentration.

STAYING POWER 83%
- ☐ Large playing area which you have to cover gradually more of.
- ■ Not much depth, just blasting.

AA RATING 86%
- ☐ Good news for 6128 owners.

position and some parts of the internal structure. It doesn't show the maze of pipes that runs through the interior but always does show your position. You can move your spherical self around, spinning on your axis and bouncing off walls and pipes. The sphere suffers from quite a bit of inertia but there's nothing that can harm you by being bumped into.

In order to repair the ship you have to perform three main tasks: repair the generator, repair the engines, and steer the ship out of danger. This isn't easy and requires a lot of puzzling and discovery on your part to unravel the game's mysteries.

As well as the pipes the screens have fancy design backgrounds and digitized pictures of various instruments. There are "switches" which look like the heads of spanners, engine terminals, a generator and some oildrums. There is even a tapedeck flanked by two switches which can be used for saving and loading the game – brilliant way of doing it.

The switches are used in a delightful way. You just settle the sphere down into the spanner head and press Fire. They control several features within the game and learning which-controls-what is important, because using the wrong switch can end the game.

The first task is to repair a leak in the generator's fuel pipe. To do that you've got to find some replacement pipe and get outside the ship. Getting outside won't be a problem; getting back in will. Once that's done you have to repair the engines, and that involves more pipe repair. What you've got to work out is how to get hold of the repair tools.

The engines are turned on and off with switches; so is the scanner which shows the ship's position. You'll have a good deal of frustration finding out which ones to use – but once learnt, never forgotten.

Some switches control the locks for doors so that when you settle into them and activate you're presented with a colour-coded puzzle that has to be solved. You have to activate the eight sections of a hexagon to the same colour, complicated by the fact that the sections cycle through several colours and alter in sequences. Some locks are harder than others, depending on the alteration pattern. It's a bit like trying to solve Rubik's cube, only not as tough.

There are three indicators on the display: fuel, power and danger. The one that will cause the most immediate problem is the power gauge running down. However, in the long term the danger gauge sets the effective time limit for completing tasks.

The graphics are excellent, abstract and attractive. The gameplay is superb, combining the best elements of puzzling with an enjoyable control method. The weird environment and the original features like switches make game special. It's quite stunning for a budget game and is worth £2 of anyone's money to experience it. **BW**

FIRST-DAY TARGET SCORE
Repair generator pipe

The Verdict

GRAPHICS 88%
- ☐ Good use of digitized pictures.
- ☐ Interesting abstract ship design.

SONICS 48%
- ☐ Good title tune.
- ■ Few in-game effects.

GRAB FACTOR 86%
- ☐ Fascinating to explore.
- ☐ Puzzles are very intriguing.

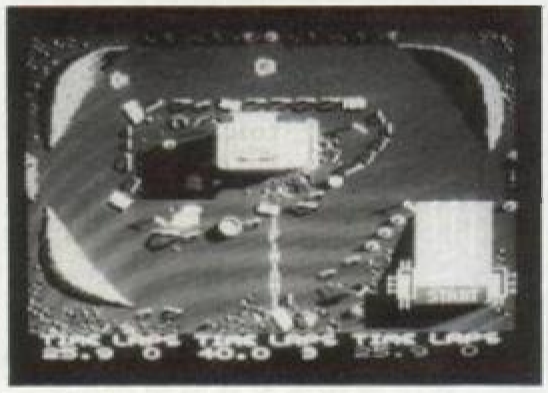
STAYING POWER 86%
- ☐ Complicated tasks and lots of pipe-mapping.
- ■ Can leave you confused and clueless at times.

AA RATING 88%
- ☐ Great save/load facility.
- ☐ Originality and price unbeatable.

BMX SIMULATOR

Code Masters, £1.99 cass, joystick or keys

A one- or two-player game over seven different courses viewed from above. Similar action to *Grand Prix Simulator* but more frustrating. Colourful and varied courses with tough qualifying times.



The Verdict

GRAPHICS 72%
- ☐ Colourful, detailed courses.
- ☐ Nice crashes where the rider goes flying.

SONICS 62%
- ☐ Pleasant title tune.
- ■ Just pedalling noises and crashes in the game.

GRAB FACTOR 70%
- ☐ Two-player racing.
- ☐ Varied courses with many features.

STAYING POWER 59%
- ☐ Seven difficult courses.
- ■ Time limits are frustratingly short.

AA RATING 68%
- ☐ Original idea as far as racing games are concerned.

GHOST HUNTERS

Code Masters, £1.99 cass, joystick or keys

By the same authors as *Super Robin Hood* this arcade adventure is similar in many respects. It has an interesting two-player feature, player two controlling a gun to help player one. Not as playable as *SRH* but still good value.



The Verdict

GRAPHICS 68%
- ☐ Attractively designed and detailed screens.
- ☐ Characters are well animated.

SONICS 75%
- ☐ Good tunes and speech synthesis as well.

GRAB FACTOR 60%
- ☐ Separate shooting cursor is novel.
- ■ Too difficult at the start.

STAYING POWER 71%
- ☐ Mansion is complicated with lots to explore and find.

AA RATING 68%
- ☐ A good follow-up to *SRH* but not as playable.

THUNDER ZONE

Firebird, £1.99 cass, joystick or keys

A shoot-em-up which has plenty of aliens whizzing across the screen but it suffers because they're difficult to hit. Shoot-em-up fans will find it frustrating and awkward controls don't help.



The Verdict

GRAPHICS 46%
- ☐ Lots of pretty aliens scroll smoothly through the view.
- ■ That's all that you see.

SONICS 33%
- ■ Not much except some sound-effects.

GRAB FACTOR 30%
- ☐ Several different icons and skills...
- ■ which don't give the game much depth.

STAYING POWER 34%
- ■ If there is something more interesting to find, it eluded me.

AA RATING 35%
- ■ Cheap doesn't always mean good value.

SAILING

Activision, £9.99 cass, £14.99 disk, joystick or keys

Sailing is a new and brave attempt at a yacht-racing simulation. You control a yacht for the country of your choice, against another country's yacht, in a series of races around a set of three bouys. Your country starts at the bottom of the league table, and you must beat each team to get to the top. Slow, uninteresting action means it doesn't have very wide appeal.

The Verdict

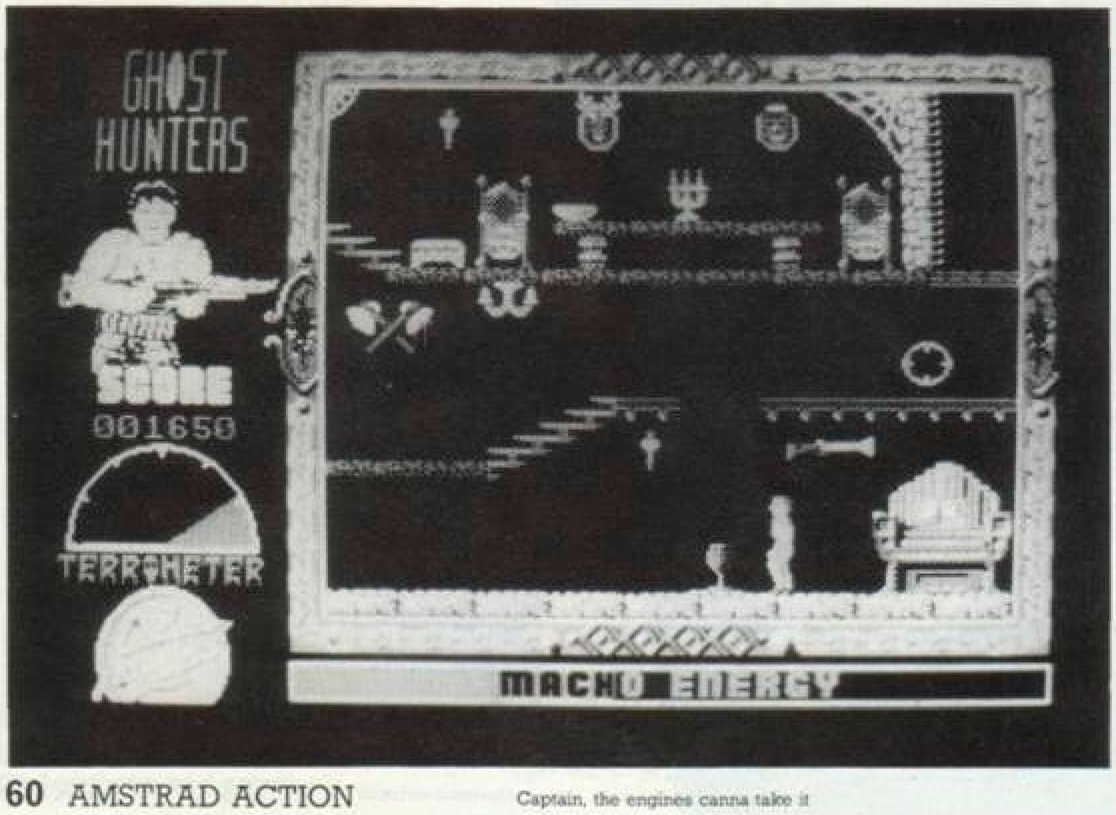
GRAPHICS 60%
- ☐ Convincing sea movement and looks.
- ☐ Colourful ships.

SONICS 67%
- ☐ Optional tune or soothing sound of the waves.

GRAB FACTOR 32%
- ■ Difficult control makes life tough.
- ■ Hours at the helm take much patience.

STAYING POWER 51%
- ☐ Interesting ship-design feature.
- ☐ Tough battle to top of the table.

AA RATING 42%
- ☐ Comprehensive instruction sheet.
- ■ You'll need to be keen on sailing.



Captain, the engines canna take it

HYDROFOOL



"...Worth shelling out for..."
The Woolwich Arsenal Times

"...A game for the hard of herring..."
'Hearsay' Magazine

"...Whale Kipper Whelk home in the Eel-side..."
Cardiff Choir News

"...Gave me a bad Haddock and made me a nervous wreck..."
Mrs. Lighthouse

"...Very fishy..."
Society for the Preservation of the Obvious.

"...Could have filled the Halibut Hall..."
André Prawn

FTL
FASTER·THAN·LIGHT
Featuring...
HYDROMATION

SPECTRUM £7.95 AMSTRAD £8.95

AVAILABLE MID-MAY

Fresh from his dismal triumph on Knutz Folly, Sweevo is thrust onto the watery world of **DEATHBOWL**, a planet which, for no good reason, has been converted into a gigantic aquarium.

Will Sweevo succeed in his mysterious mission — or will the Great Bowl-Keeper pull the plug on him?

HYDROFOOL is a fast, 3-D, seek, chase, puzzle and laugh game, featuring the fabulous but irrelevant **HYDROMATION.**

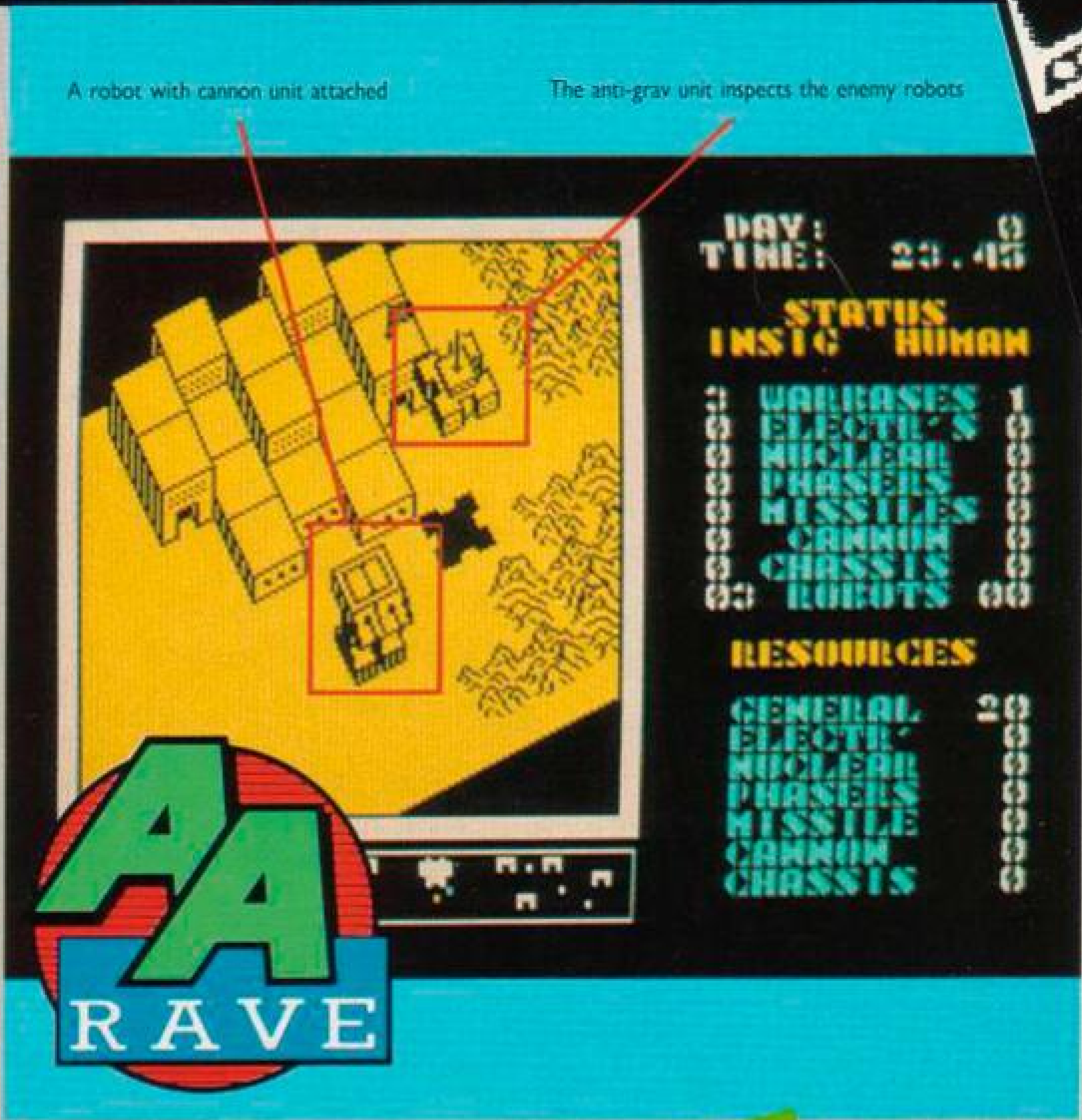
FTL FASTER THAN LIGHT, CARTER FOLLIS GROUP OF COMPANIES, SEDGLEY ROAD EAST, TIPTON, WEST MIDLANDS DY4 7UJ. Tel: 021-557 2981 (4 lines)

NETHER EARTH

Argus Press, £9.95 cass, joystick or keys

Games requiring mental dexterity are definitely flavour of the month, and about time too. I've always enjoyed the type of game where a long, hard struggle always occurs and a well-considered battle plan is required. This continues the run of much-improved Argus Press games, perhaps a result of a more considered battle plan on the part of Argus.

The game takes place on a long, scrolling, narrow strip of land. You start at the western edge and it runs upwards and off to the east, to where the enemy are positioned many screens away. You control an anti-grav unit which can fly freely along the map. You may think you've stumbled into a *Zaxxon* rip-off at this stage. Such is not the case. A quick trip to the top of your headquarters building will reveal that fact.



A robot with cannon unit attached

The anti-grav unit inspects the enemy robots

SECOND OPINION

Although the game is slow-moving – or rather, the graphics (in particular your robot) take an age to get from one place to another – there is an enjoyable element of puzzling. It is along similar lines to Mission Omega, *but thankfully does not put you to sleep.* **RpM**

GREEN SCREEN VIEW

No problems

The HQ is your warbase and the nearest building at the start. Scattered all along the strip of land are other buildings and features including factories, walls, hills and crevasses. Everything except the factories serve just as obstacles to your later activities. Further up

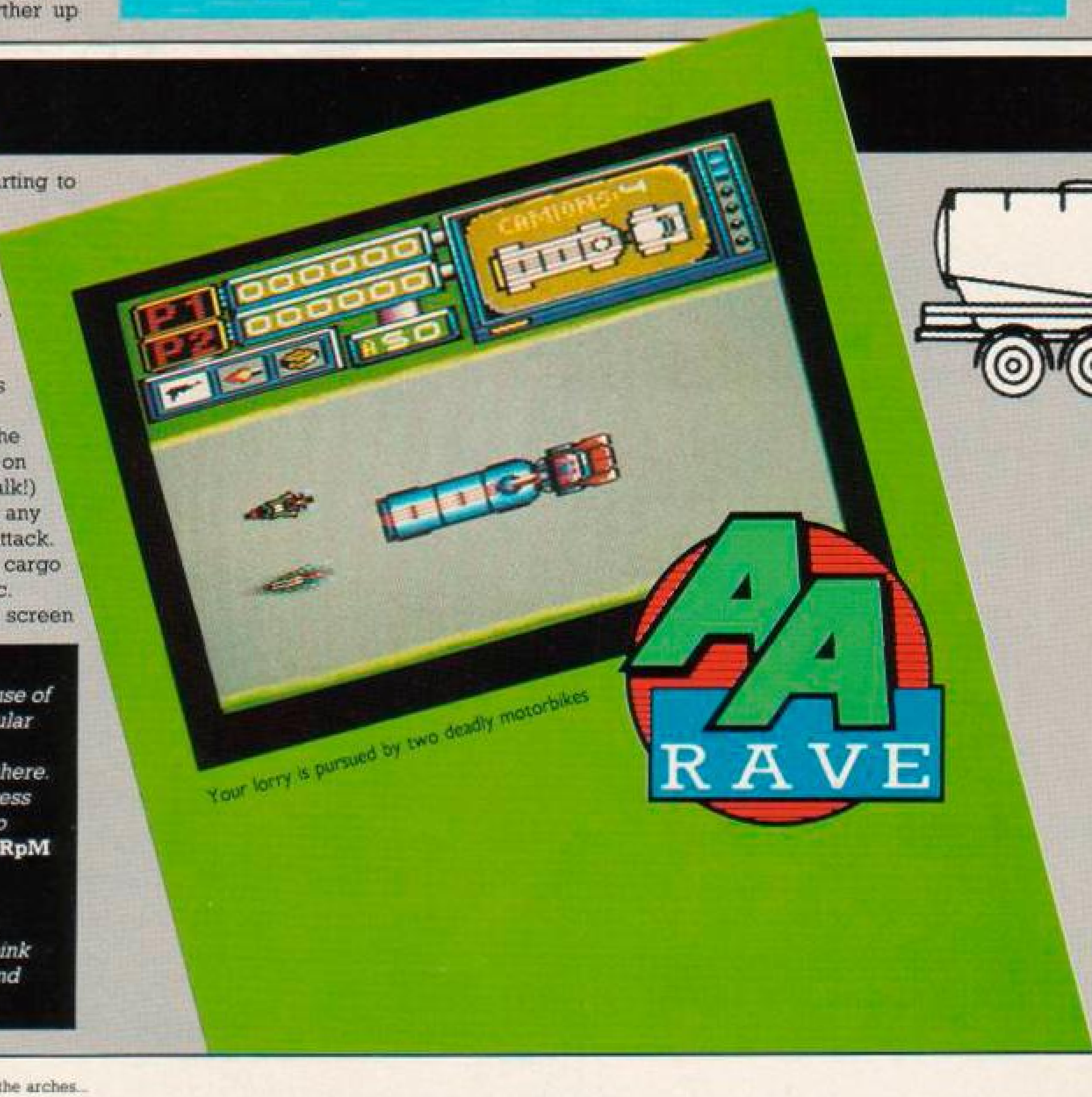
ASPHALT

UBIsoft, £9.95 cass, £14.95 disk, joystick or keys

French software houses are really starting to prove their worth with some excellent original software. UBIsoft, who had previously released *Zombi*, still hasn't made much impression but now has a distribution deal with Elite. This is another game where we've seen only the French version and don't know when it will hit the streets over here.

The game is set in the future, in the USA, where anarchy has descended on the roadways. (The French should talk!) Some areas are absolutely lethal, with any passing vehicle coming under heavy attack. You drive a large lorry trying to get a cargo through the waves of murderous traffic.

The lorry sits in the middle of the screen



Your lorry is pursued by two deadly motorbikes



SECOND OPINION

Another fantastic French jeu. Good use of colour and original. This is a particular favourite: the pace may be a little sluggish, but the tension is always there. It gets harder the further you progress and more addictive. It's hard to stop rolling... **RpM**

GREEN SCREEN VIEW

Those red and blue and green and orange and purple and white and pink and yellow vehicles are all green and visible too.



the strip are three enemy warbases. Your aim is to capture or destroy all of these.

Landing on the HQ takes you to a screen where you can build robot war-machines. These can be made up of various modules. First are the three types of chassis unit, then four types of weapon and an electronic module. The chassis types are bipod, tracked and anti-grav, which have different capabilities for coping with the terrain and of course different costs.

To produce the units you have to allocate limited resources. This applies to the other modules as well, so you have to balance the cost of the unit against its effectiveness and task. To start you'll have very little to play with, so very basic robots of a chassis and one weapon will probably suffice.

The weapons are cannon, missiles, phasers and nuclear. They have different ranges and power, the nuclear bomb being very expensive and used for blowing up factories or warbases. Once a robot is built you can despatch it into play.

Outside the warbase the robot will halt until you fly on to the top of it and give it some orders. You can either have the robot under direct control or, as will nearly always be the case, give it orders to carry out on its own. You can tell it to stop and defend a spot, advance or retreat a specified distance, destroy robots, factories or warbases, or capture factories and warbases.

The factories are the most important feature: once they are under your control they can produce more resources with which you can build robots. However, the enemy will also be acquiring factories to build up their own army of robots. At the outset, the factories near you will be neutral and you'll have no enemy interference. You need to capture these quickly and try to build a force that can fight back against the now invading enemy robots.

Just holding the enemy off will be tough enough. Attacking their factories and warbases requires real forward planning, good marshalling of resources and a smidge of luck. The fact that you play general and leave the robots to do most of the work on their own is what really forces you to think through what they've got to do. You can directly control one robot at a time for both moving and combat, which is useful for some situations where a specific task is required.

The robots exhibit just enough intelligence to perform their tasks without actually making your decisions for you. If left entirely to their own devices after leaving the warbase you'll lose. You can only play against the computer but it's a formidable enemy.

When robots clash one will be destroyed, depending on who has the better weaponry and location, leaving a pile of junk where used to be a hi-tech battle machine. Controlling these encounters is the most important task. The computer's built-in warbase advantage means you have to destroy its robots while maintaining yours – there is a way.

The robots and landscape are drawn in some detail but – and I'm getting tired of saying it – the use of colour is awful again. Just yellow and black for the playing area and robots. It isn't particularly hard to produce good colour on the CPCs so why can't Argus Press? Apart from that it's an excellent game, a nice piece of future strategy that will provide many hours of fun. **BW**

FIRST-DAY TARGET SCORE
Capture nine factories

The Verdict

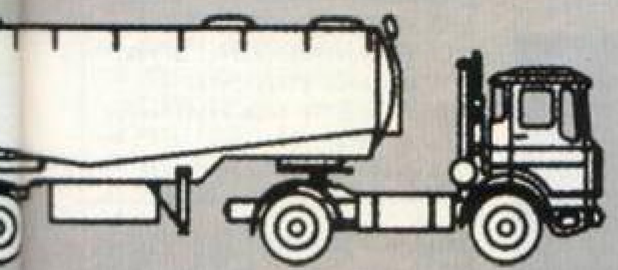
GRAPHICS 72%
☐ Detailed playing area and robots.
■ Why the lack of colour?

SONICS 53%
☐ Good title tune.
■ Few in-game effects.

GRAB FACTOR 80%
☐ You take decisions while the robots do the boring bits.
■ Lack of colour and awkward instructions confuse things.

STAYING POWER 82%
☐ Tough computer opponent.
☐ Large, well designed play area.

AA RATING 80%
☐ Good to see a future-based strategy game.



and the road scrolls right to left under it. You have a bird's-eye view of the action. You can move the lorry up and down the screen but not from side to side.

To combat the marauding motorists your lorry is customized with some special features. For a start it's got armour-plating all over, and even reinforced tyres, to protect it from attack. Naturally you'll want to fight back. There are three ways of doing it. On the top of the lorry is a turret containing a machine-gun and a limitless supply of bullets. The gun can be swivelled to any direction and is the best all-purpose weapon.

You're armed with a limited supply of mines and flamethrowers as well. The mines are dropped from the back of the lorry and take out anything behind you. The flamethrowers spurt from the side of the driver's cab and roast anything alongside you. You'll need all this weaponry to deal with lunatics who attack you.

The enemy comes in all shapes and sizes of vehicles, from all directions and with different weapons. At first motorbikes will cruise up behind you and fire machine-guns. Then bikes with sidecars try to come alongside and blast you.

Further along you'll start running into cars of different varieties. Some of these will shoot from behind, others from the side. They also carry flamethrowers and will try to barbecue you. There's even one nasty piece of work that appears from the right of the screen and tries to fry the front of the lorry. One bike drops tacks in your path; another lands men on the side of the lorry.

You can take out all vehicles with the machine-gun, but it will take a prolonged burst of fire and you'll have to pause to reload occasionally. When one does bite the dust, it explodes in a ball of flame and disappears off screen. You must be careful not to bump into the burning wreck and damage the lorry.

Damage to the lorry is indicated by coloured panels on an outline of it at the top of the screen. Yellow and green aren't too bad, but red means you're near to exploding. You've got only five lorries and you'll frequently see them going up in flames.

If you can destroy enough vehicles you progress to the next stage with reduced damage and renewed ammunition. You can also collect objects off the road, which will reduce the damage level. Naturally things get tougher. On the first stage the enemy appeared only in twos; they'll now start to appear in threes and later in even greater numbers.

The action is comparatively sedate but is difficult nonetheless. You've got to recognise and remember attack patterns so as to minimise damage to yourself and dispose of the enemy as quickly as possible. The graphics are superb with big, colourful sprites for all the vehicles and explosions. **BW**

FIRST-DAY TARGET SCORE
10,000

The Verdict

GRAPHICS 86%
☐ Big, beautiful vehicles.
☐ Good use of colour.

SONICS 44%
■ Unassuming effects.

GRAB FACTOR 84%
☐ Curiously addictive trying to stay alive.
☐ Lots of variety in attackers and patterns.

STAYING POWER 77%
☐ Gets harder with each new stage.
■ Action may be a bit sedate.

AA RATING 80%
☐ A nice variation on the arcade game *Spy Hunter*.



CHEAT MODE

Dick'n'Bob check out your tips, pokes and game-busting ploys. The best ones could win an entire issue's *Amstrad Action* Raves! So why not send *your* latest gem for the *AA* team to test? Send to: Cheat Mode, *Amstrad Action*, Somerton, Somerset, TA11 7PY.

BATTLEFIELD GERMANY

Jaranpat Khaejornbut from Belfast has sent tips for the PSS war game. Among them he has spotted an omission from the instructions and a bug.

1 Something unusual happens with the cursor. If you leave it over a hex occupied by a unit at the end of your turn, it will have disappeared after the computer's turn. So before you press X to finish your turn make sure that the cursor hasn't been left over any of your units. You could place the cursor over the enemy's units and make your task that much easier.

2 The R key has been omitted from the instructions but is very useful. It centres the cursor on the screen.

3 Don't rush into combat with enemies that have a higher efficiency rating. Try to cut their supplies first. When they're out of supplies, fatigue increases and affects efficiency. The efficiency display stays the same but its effect on the combat calculations will have altered and has considerable influence on the result.

To cut the enemy supply route find the weakest point in the line and attack it. Once you've made a gap, units can move through it with less movement points. Use the air mobile units and drop paratroopers behind enemy lines to help the attack. These units may have to be sacrificed but it's worth it.

TEMPEST

TC Spanner has a quick tip for the Electric Dreams shoot-em-up. Hold down the delete key and type in the following in uppercase: bess, tony, credits, dates, capri, ferrari. Each one gets a different response.

DDII

Dan, Dan the Mirrorsoft man has been given a good poking by **Paul Robson** of Middlesbrough. Entered using Method 1, the poke supplies Dan with infinite energy.

```
1 ' Dynamite Dan II
2 ' by Paul Robson
3 ' Amstrad Action   June 87
10 MEMORY &3FFF
20 MODE 1:LOAD"!"
30 FOR f=&A7F8 TO &AB0E
40 READ a$:POKE f,VAL("&"+a$)
:NEXT
50 DATA 21,a8,01,22,d5,46,c3,05
55 DATA 40,f5,cd,19,bd,3e,00,32
60 DATA c5,15,32,cf,15,f1,c9
70 CALL &A7F8
```

Equinox

L Bonnet and **G Wilson** of Twickenham know how to get infinite lives on the Mikro-Gen game. All you do is get the Pete object and return to the start screen. Go to the top left corner and press the letters RNC and you have infinite lives. However, the time limit still runs out so it's not all plain sailing.

Get Dexter

A correction to **Andrew Mansell**'s pause for the PSS game. The keys should be the D and X keys.

Mr Freeze

Paul Taylor of Frome has sent in the tip that de-icing number six twice in the Firebird game will give you infinite lives.

Poke methods for tape

Here is how to input the majority of Cheat Mode tape pokes. The instructions for each poke tell you which of the two different methods to use. If you have a 664 or 6128, first type |tape.

Method 1

Rewind the game tape to the beginning. Now type in the poke listing. Then type RUN and press the Enter key. (Don't use the key marked CTRL or Control; that would stop the poke from working.) Press the Play key on the cassette deck, then any key on the main keyboard – the spacebar will do nicely. The tape should now start to play through in the normal way.

Method 2

For this method you have to skip the first bit of the game program. To do that, start by rewinding the game tape to the beginning. Now type in the listing. Then type CAT and press Enter. Start the tape by pressing Play and then any key. Then watch the screen.

Soon you'll get the message Found *something* block 1. It doesn't matter what the *something* actually is; this will vary from one game to another. If the Cheat Mode instructions just tell you to skip the first block, you should stop the tape here.

If the instructions tell you to skip several things, stop the tape when the Found message comes up for the last thing you're trying to skip.

Once you've stopped the tape, press Escape, type RUN and press Enter. Now press Play on the tapedeck and any key on the keyboard to start the tape running.

THRUST

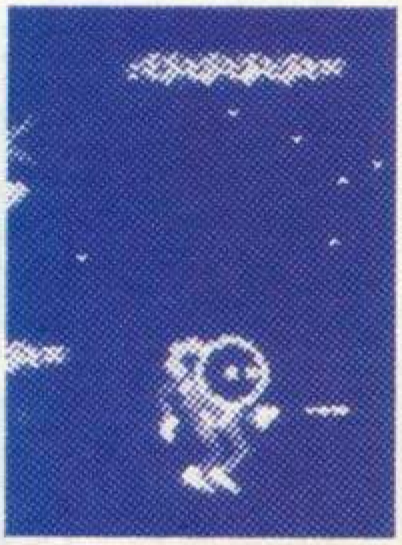
Colin Ward of New Milton has supplied you with an excellent poke for Firebird's cheapie. Entered via Method 1, it gives 9999 fuel points and infinite lives – what more could you want?

```
10 DATA 2a,00,9f,22,38,bd,cd,37
20 DATA bd,3e,f7,32,c1,3c,3e,c3
40 DATA 21,1f,9e,32,30,00,22,31
60 DATA 00,cd,00,4f,c3,00,3c,3e
80 DATA 99,32,66,71,21,3e,04,22
90 DATA 3f,43,c3,00,70,c9,2a,38
110 DATA bd,22,00,9f,21,ee,99,22
120 DATA 38,bd,3e,c3,21,00,9e,32
140 DATA 19,bd,22,1a,bd,c3,00,36
150 DATA c3,00,9e
160 MEMORY &2000:BORDER 0:MODE 1
180 n=0:FOR x=&9E00 TO &9E4A
200 READ a$:POKE x,VAL("&"+a$)
210 n=n+VAL("&"+a$):NEXT x
230 IF n<>6737 THEN PRINT"error
    in data":END
240 LOAD"thrust1":CALL &9E2E
```

Super Pipeline II

Yet another of the *Computer Hits 2* games poked. Again it's **Richard Hodges**' doing. Richard has found a routine incorporated in the *Pipeline* code, and a couple of his pokes re-enables it. The S key starts again, W or L proceed to the next pipe and A increments your high score (going into slow-motion as it does). Use Method 1 to run the poke. Then load the game and press the required key. An infinite-lives poke is included.

```
1 ' Super Pipeline II
2 ' by Richard Hodges
3 ' Amstrad Action   June 87
10 OPENOUT"a":MEMORY &3FF
20 LOAD"!sup-II"
30 ' enable S,A,W,L keys
40 POKE &773,0:POKE &798,&FF
50 ' infinite lives
60 POKE &6CC,0:POKE &690,0
70 CALL &400
80 GOTO 70
```



ZUB

Another Mastertronic game bites the dust thanks to **Richard Hodges** of Barnet. Endless (makes a change from infinite) lives, number-of-platforms choice and removal of droids are the capabilities of this Method 1 poke.

```
1 ' Zub
2 ' by Richard Hodges
3 ' Amstrad Action   June 87
10 MODE 1:FOR p=&BE00 TO &BE11
20 READ p$:POKE p,VAL("&"+p$)
30 NEXT:INPUT"Endless lives ";i$
40 IF UPPER$(i$)="Y" THEN POKE
   &BE01,0
50 INPUT"Remove droids ";i$
60 IF UPPER$(i$)="Y" THEN POKE
   &BE06,&C9
70 INPUT"Enter number of
   platforms per planet
   (normally 18) ";s
80 IF s<1 OR s>18 THEN 70
90 POKE &BE0B,(19-s)
100 MEMORY &2000:LOAD"",&2040
110 POKE &2042,&20:POKE
    &2058,&C9
120 MODE 0:CALL &2040
130 POKE &4025,&BE:CALL &4000
140 DATA 3e,3c,32,a2,43,3e,3e,32
150 DATA 75,45,3e,01,32,af,44,c3
160 DATA 00,9d
```

MERCENARY



Kevin Wallbank of Charnock Richard has produced a handy map for the underground complexes with all the objects labelled. Exploration should now be a lot easier.

1. Sink
2. Anti-timebomb
4. Pass
5. Interstellar craft
7. Data bank
8. Cheese
9. Armament
11. Gold
12. Winchester
13. Nova drive
14. Metal detector
15. Anti-grav
16. Antenna
17. Catering provisions
18. Large box
19. Web
20. Energy crystal
21. Sights
22. Power amp
23. Medical supplies
24. Photon
25. Neutron fuel
26. Mechanoid
27. Essential supply

Feud

Mastertronic's cheapie has been given a good going-over by **Robert Brooks** of Yeovil. He has kindly provided you with a choice of infinite spells and the possibility of skipping the herb-collecting stage. Enter the poke using Method 1.

```
1 ' Feud
2 ' by Robert Brooks
3 ' Amstrad Action   June 87
10 addr=&5400
20 PRINT"No need to collect herbs
   (Y/N) ?"
30 GOSUB 140: IF a THEN RESTORE
   100:FOR n=0 TO 3:READ a$:POKE
   n+addr,VAL("&"+a$):NEXT:
   addr=addr+n
40 PRINT"All spells infinite
   (Y/N) ?"
50 GOSUB 140:IF a THEN RESTORE
   110:FOR n=0 TO 12:READ a$:
   POKE n+addr,VAL("&"+a$):NEXT:
   addr=addr+n
60 PRINT"All corners act as
   cauldrons (Y/N) ?"
70 GOSUB 140:IF a THEN RESTORE
   120:FOR n=0 TO 3:READ a$:POKE
   n+addr,VAL("&"+a$):NEXT:
   addr=addr+n
80 FOR n=0 TO 2:READ a$:POKE
   n+addr,VAL("&"+a$):NEXT
90 MEMORY &4FFF:LOAD"FEUD":POKE
   &5008,&54:MODE 1:CALL &5000
100 DATA af,32,84,09
110 DATA 21,c5,15,11,c6,15,36,
    ff,01,0b,00,ed,b0
120 DATA af,32,7a,09
130 DATA c3,00,04
140 a$="":a=0:WHILE a$<>"n" AND
    a$<>"y":a$=LOWER$(INKEY$):
    WEND
150 IF a$="y" THEN a=1
160 RETURN
```

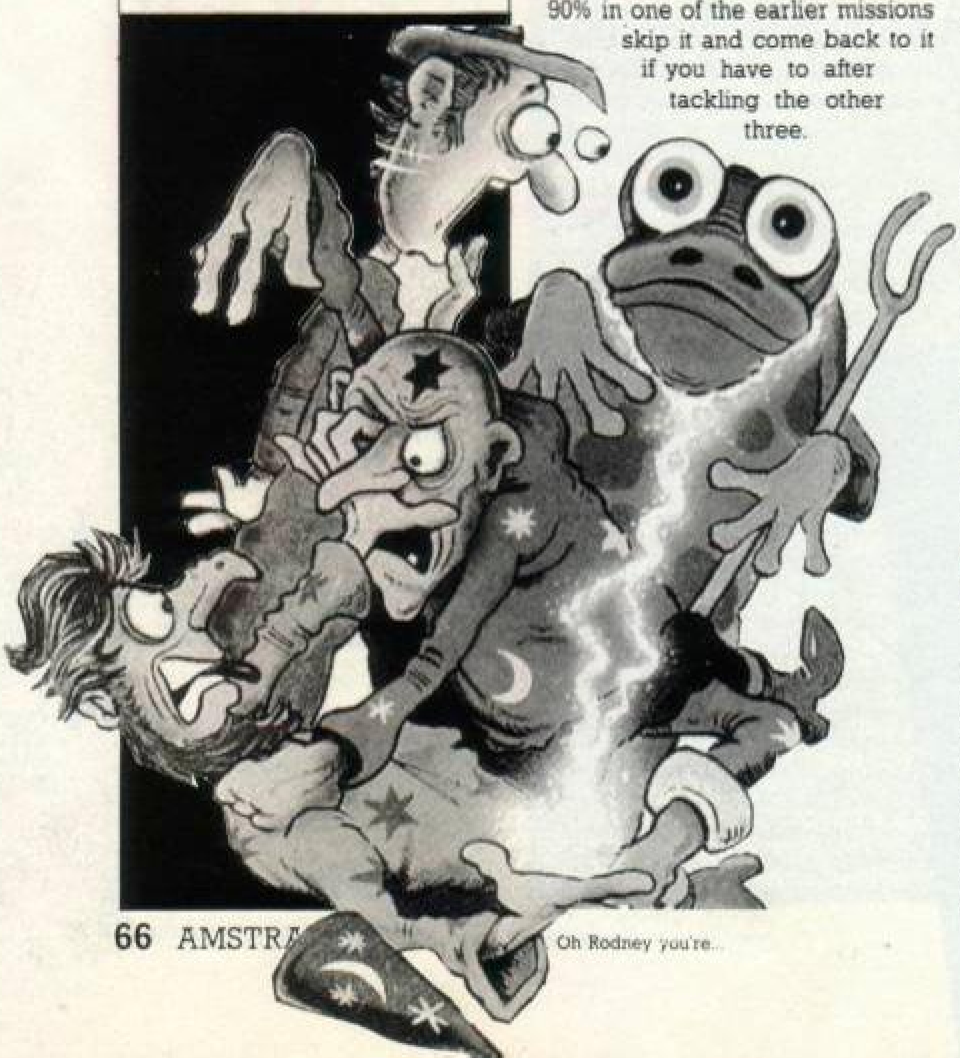
ACADEMY

We've received two sets of tips for the CRL Mastergame, some general ones from Guy Blackburn **of Hemel Hempstead and detailed ones on the first four missions from** S Reeves **of Harlow.**

Lasers are the most useful weapon. Missiles are best used to keep the pressure off. The mission information section will give you a guide to the conditions on the planet. A skimmer is provided for each mission and it's best to use that at first. Once you realise the equipment required it's best to design your own. Missions can't always be completed if you choose the wrong skimmer, and there's nothing worse than battling a horde of aliens for 20 minutes only to find you've forgotten a vital piece of equipment.

In any mission where the robots are spread out, a compass and scanner are vital equipment. It's also a good idea to go for the most powerful lasers and shields. The high-power steering unit can be oversensitive so go for a medium-power one instead. Don't waste space on flares and an infrared unit unless they're essential.

Each set of four missions needs an average score of only 90%. This means that if you score 100% in the first three you need only get 60% on the fourth to move onto the next level. If you can't get 90% in one of the earlier missions skip it and come back to it if you have to after tackling the other three.



Oh Rodney you're...

Level 2

Cipher: collect and assemble the codes from nearby reactors.
At the OK Corral: one for budding John Waynes.
Where to, guv?: launch to a solitary jump pad. Unfortunately the jump network has been taken over by pirates. You can always jump out of trouble but watch the fuel.
Hide and seek: Involves eliminating several solar-disk complexes. You'll need a suppressor droid.

Level 3

Laserium: more straight-ahead blasting.
Hades II: Very poorly lit – infrared and flares needed.
The sands of time: a whole network of reactors to eliminate. The best way is to sneak missile at point-blank range.
Mission improbable: collect and assemble codes. Supressor droids come in handy here.

Level 4

Ceti revisited: a bit of nostalgia here on *Tau Ceti III*.
Out of the frying pan: shoot-em-up with a nasty welcoming committee.
Don't panic: solar disks and reactor complexes mean delay bombs are needed.
Needle in a haystack: navigational skills needed, plus finding a path through a minefield.

Level 5

The coalmine: planet in permanent darkness, so infrared is vital.
Paz!: watch out for indestructible supermissiles. Average survival time 35 seconds.
Protector: chase the tracker units. You need a fast skimmer, but this mission is quite easy once you get the hang of it.
The shepherd: find and bring back, intact, watch towers.

Level 1

If it moves: your base is surrounded by four sets of beacons in twos. Don't destroy them as they are necessary for navigation. Design your ship with good lasers, scanner, 4 bombs, 8 missiles, anti-missile missiles (amms), compass and good main drive. First clear anything from around the GalCorp Lander (GLV) that isn't a beacon.

Return to the GLV and re-equip. Fly out along the line of one of the sets of beacons. When you find a ship steer towards it but very slowly. There are waves of ships which thrash you in close combat, so stop and blast them one by one. If they don't approach you at first edge a bit nearer. Use all missiles, turn and head for the GLV. Change to rear view, shooting dropping bombs the whole time. Be careful not to crash into the GLV.

Repeat this for each set of beacon directions and you should easily get a pass. If it gets dark, return to the GLV and wait five minutes.
Red dawn: use the same ship as in mission one but with a jump unit, infrared or flares, and 8 amms. Destroy enemy near the GLV, then re-equip and use the jump pad.

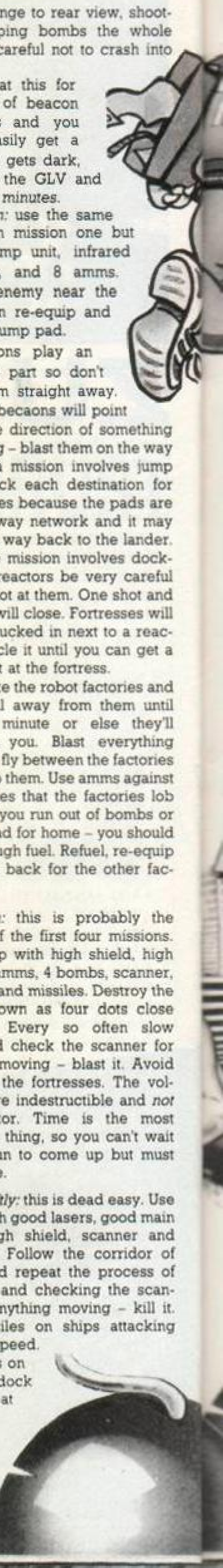
Beacons play an important part so don't blast them straight away. A line of becaons will point you in the direction of something interesting – blast them on the way back. If a mission involves jump pads check each destination for fuel centres because the pads are in a one-way network and it may be a long way back to the lander.

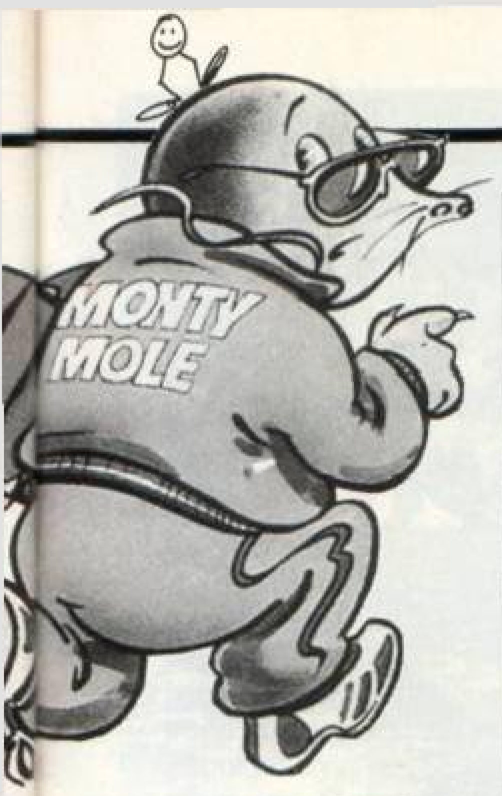
If the mission involves docking with reactors be very careful not to shoot at them. One shot and the door will close. Fortresses will often be tucked in next to a reactor so circle it until you can get a clean shot at the fortress.

Locate the robot factories and keep well away from them until the last minute or else they'll slaughter you. Blast everything else, then fly between the factories and bomb them. Use amms against the missiles that the factories lob at you. If you run out of bombs or amms head for home – you should have enough fuel. Refuel, re-equip and head back for the other factories.

Meltdown: this is probably the hardest of the first four missions. Get a ship with high shield, high lasers, 8 amms, 4 bombs, scanner, compass and missiles. Destroy the mines shown as four dots close together. Every so often slow down and check the scanner for anything moving – blast it. Avoid or bomb the fortresses. The volcanoes are indestructible and *not* the reactor. Time is the most important thing, so you can't wait for the sun to come up but must persevere.

Softly, softly: this is dead easy. Use a ship with good lasers, good main drive, high shield, scanner and compass. Follow the corridor of mines and repeat the process of stopping and checking the scanner for anything moving – kill it. Use missiles on ships attacking you, for speed. Scoring is on time but dock carefully at the end or you'll





MONTY ON THE RUN

```
1 ' Monty on the Run -- 664/6128
2 ' by Richard Hodges
3 ' Amstrad Action   June 87
10 GOSUB 20:CALL &BE00
20 DATA 21,80,be,11,e9,02,01,20
30 data 00,ed,b0,00,00,00,00,00
40 data 21,40,20,11,40,00,01,f7
50 data 01,ed,b0,21,40,00,e5,21
60 data 89,03,e5,21,f7,01,e5,21
70 data 1f,b1,e5,21,bb,02,e5,f1
75 data 21,e4,b1,11,f7,01,f3,c9
80 MEMORY &2000:LOAD"":CALL &42F3
90 LOAD"!",&2040:POKE &2236,5
100 FOR x=&BE00 TO &BE37:READ a$
110 POKE x,VAL("&"+a$):NEXT
120 RESTORE 240:p=&BE80
130 WHILE b$<>"end":READ b$
140 POKE p,VAL("&"+b$):p=p+1:WEND
150 RETURN
200 ' infinite lives
240 DATA 3e,00,32,bc,9c
250 ' stop crushers
260 DATA 3e,c9,32,e3,9b
270 ' remove collision detection
280 DATA 3e,c9,32,a6,b6
290 ' leave the following lines
300 DATA c3,e9,82,end
```

Richard Hodges is responsible for poking Gremlin's furry character around. Entered using Method 1, it works *only* on 664 and 6128 machines. There is a comprehensive list of cheats you can supply: infinite lives, crusher-stopper, remove collision detection. Delete the data you don't require and get playing.

BOMBJACK II



Elite's follow-up to *Bombjack* has resulted in a flood of pokes. First out of the bag was **Declan Kennedy**'s. Use Method 1. You can choose the number of lives and moving or stationary reptiles.

```
1 ' Bombjack II
2 ' by Declan Kennedy
3 ' Amstrad Action   June 87
10 MEMORY &16A7
20 BORDER 0:MODE 0
30 FOR x=0 TO 15:READ y
40 INK x,y:NEXT
50 LOAD"!b2screen.bin",&C000
60 LOAD"!b2code.bin",&175C
70 MODE 2:INK 1,26:INPUT"Moving
   reptiles (Y/N) ";k$:IF k$="y"
   OR k$="Y" THEN 80 ELSE POKE
   6505,25:GOTO 80
80 INPUT"Infinite lives (Y/N) ";
   k$:IF k$="y"OR k$="Y" THEN
   POKE 6744,0:GOTO 120 ELSE 90
90 INPUT"How many lives ";n
100 IF n<1 OR n>255 THEN 50
110 POKE 6744,n
120 MODE 0:CALL &1770
130 DATA 0,26,1,8,11,10,14,5
140 DATA 20,15,21,25,6,3,12,24
```



Grand Prix Rally II

J Hall of Leicester has some advice on surviving this old game. Just drive as far as possible on the right of the road and you'll miss the other cars. You can't do this on the water circuits. Slow down for right turns to avoid drifting out but go full-tilt on the left bends.

BOMBJACK



As *Bombjack* is given away free with Elite's smash game, **Kojo Ellimah** of Palmers Green in London thought a revised poke for it would not go amiss. It supplies you infinite lives and three bonus coins at the start of each screen, plus a power ball after collecting the first 10 bombs. Use Method 1.

```
1 ' Bombjack
2 ' by Kojo Elliman
3 ' Amstrad Action   June 87
10 MEMORY 5999:BORDER 0:
   MODE 0:INK 0,1
20 FOR f=0 TO 15:READ a:
   INK f,a:NEXT f
30 LOAD "!bjscreen.bin",&C000
40 LOAD"!bjcode.bin",6000
50 POKE 6653,0
60 POKE 12222,12
70 CALL 6000
80 DATA 1,0,26,8,24,13,11,6
90 DATA 15,16,5,2,6,3,20,10
```

ANDROID 2

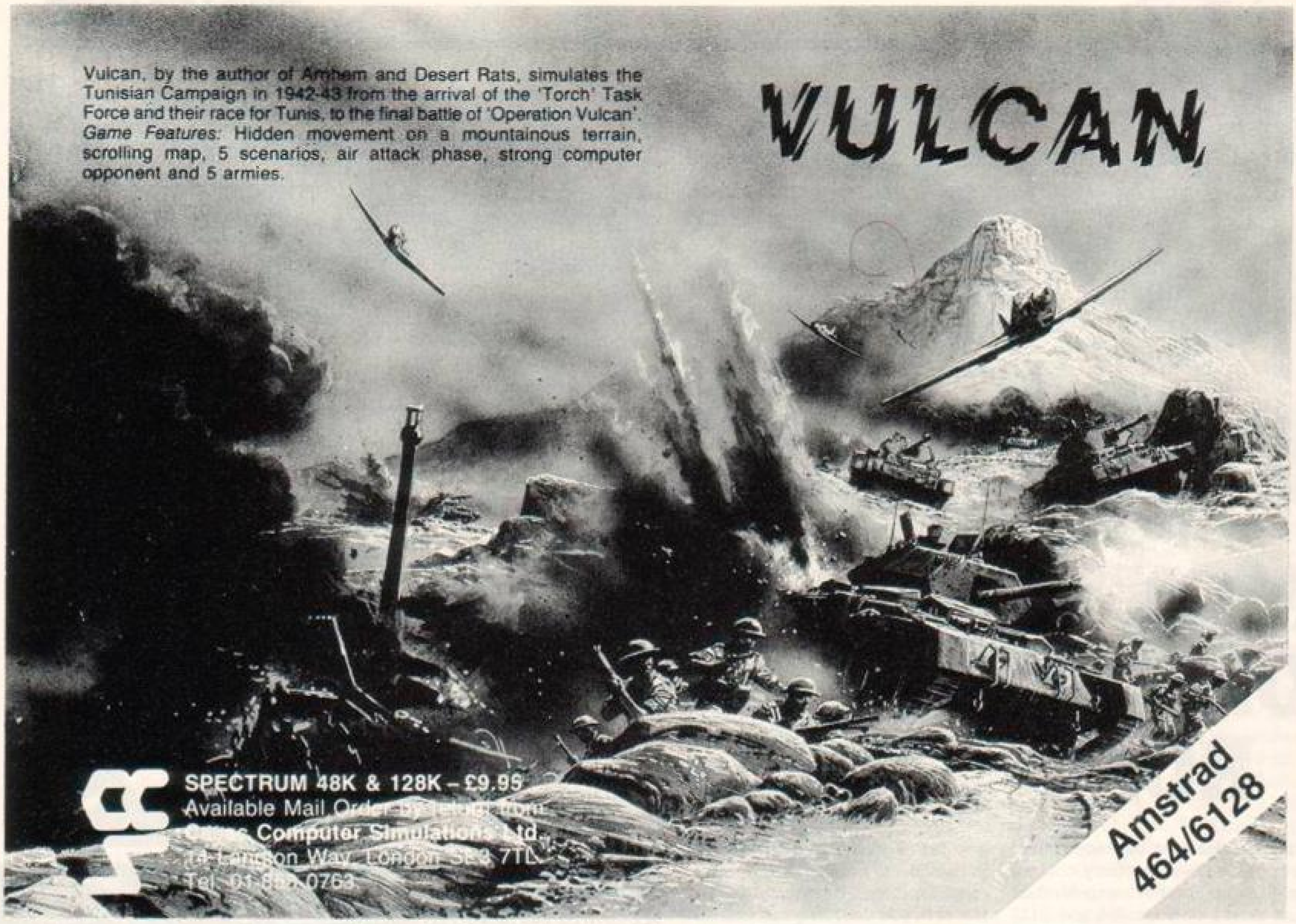
The *Computer Hits 2* compilation tape has been given some rough treatment by **Richard Hodges** of Barnet. The first to fall is *Android 2*. By either typing in or discarding the data after the rem statements you can select immunity to aliens, infinite time or both. Method 1.

```
1 ' Android 2
2 ' by Richard Hodges
3 ' Amstrad Action   June 87
10 OPENOUT"d":MEMORY &500
20 LOAD"and2mc",&A8C
30 ' immunity to aliens
40 POKE &2806,&C9
50 ' infinite time
60 POKE &3070,&C9:CALL &A8C
```

GAUNTLET

In our March and April issues (18 and 19), we printed two *Gauntlet* disk pokes. Both of the pokes write to the disk and work okay, but unfortunately we've now discovered that there appear to be two different versions of the game. At the moment we don't know how to tell them apart, other than by trying them against particular pokes.

So to be on the safe side *DON'T* use the poke in the April issue (19). ***DO*** use the one in March issue (18), which is reversible if it doesn't work. This means that if the poke causes a problem you just run it again and cancel any effects you poked. You still need to be very careful when typing the poke in because it does alter the game disk.



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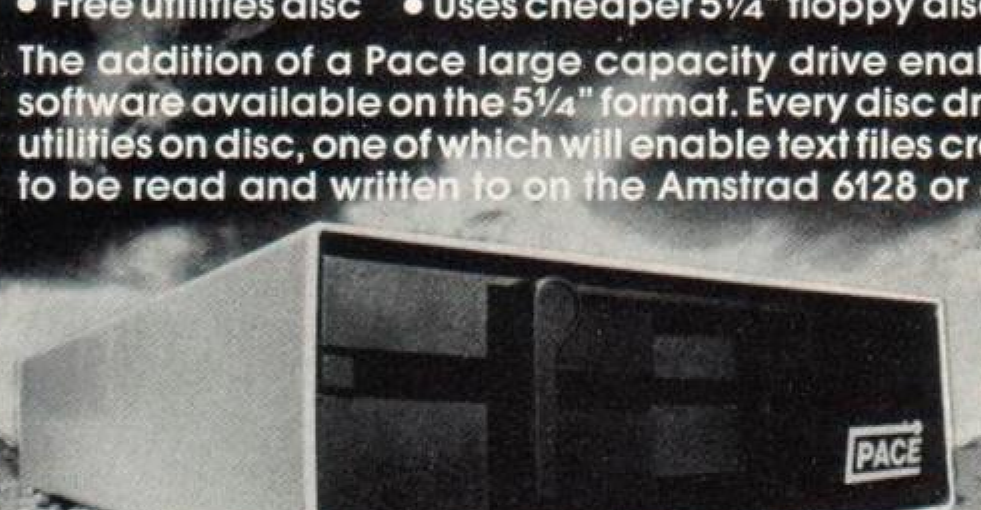
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AA READER SURVEY

From time to time we like to find out just who you are, what you get up to with your CPC and what plans you have for your machine. This questionnaire will help us build up a more accurate picture of our readers and, more importantly, tell us what you want from YOUR magazine. Once you've filled in the form just send it to: *AA Questionnaire, Future Publishing Ltd, 4 Queen Street, Bath, BA1 1EJ.*

1 What hardware do you own?

☐ CPC 464 ☐ CPC 664 ☐ CPC 6128 ☐ disk drive for 464
☐ colour monitor ☐ green-screen monitor ☐ TV modulator
☐ printer ☐ modem ☐ romboard ☐ memory upgrade
☐ tape-to-disk transfer utility ☐ other (please specify)......

....

2 How old are you?

☐ under 12 ☐ 12-16 ☐ 17-25 ☐ 25-40
☐ 40-50 ☐ 50-60 ☐ over 60

3 What do you plan to buy in the next 12 months?

☐ printer ☐ modem ☐ romboard ☐ memory upgrade
☐ tape-to-disk utility ☐ disk drive ☐ word-processor
☐ database ☐ spreadsheet ☐ programming language

4 What do you use your computer for?

Tick up to 3 most common: ☐ games ☐ word-processing
☐ Basic programming ☐ programming in other languages
☐ accounts ☐ data storage ☐ graphics ☐ music
☐ communications (modems) ☐ other (please specify)......

....

5 How much do you spend monthly on software?

☐ under £10 ☐ £10-£20 ☐ £20-£50 ☐ £50-£100 ☐ £100+

6 In what form do you buy your software?

☐ on tape ☐ on disk ☐ mixture of both

7 When buying games, which do you usually get?

☐ budget (less than £5) ☐ full-price (more than £7) ☐ mixture

8 Why mainly do you buy *Amstrad Action*?

Tick up to 3: ☐ Reaction ☐ Helpline ☐ Amscene ☐ Type-ins
☐ Serious Software ☐ Problem Attic ☐ Hot Tips ☐ Hackers
☐ Day in the Life ☐ Action Test ☐ Cheat Mode ☐ Maps
☐ Pilgrim ☐ Special Offers ☐ Rear View ☐ Adverts
☐ Hardware reviews ☐ ......

9 How could *Amstrad Action* be improved?

....

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....

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  JUMP – not to return but to JUMP to another address, say to your own routines in the 8K RAM extension.
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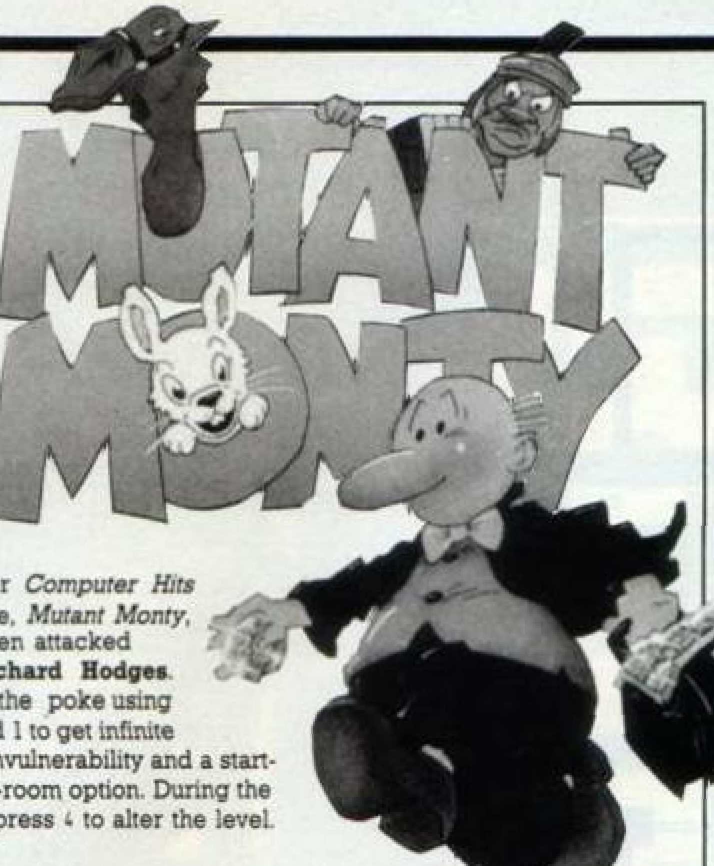
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Another *Computer Hits 2* game, *Mutant Monty*, has been attacked by **Richard Hodges**. Enter the poke using Method 1 to get infinite lives, invulnerability and a start-at- any-room option. During the game press 4 to alter the level.

```
1 ' Mutant Monty
2 ' by Richard Hodges
3 ' Amstrad Action   June 87
10 MODE 1:MEMORY &1500
20 INPUT"Start screen (1-40) ";b
30 IF b<1 OR b>40 THEN 20
40 LOAD"!code":CALL &1D7C
50 ' press 4 to alter screen
60 POKE &9498,&CD
65 POKE &9499,&66:POKE &949A,&9E
70 ' start room'
80 POKE &A1C6,(b-1)
90 ' invulnarability
100 ' poke &91a6,0
110 MODE 0:BORDER 0:CALL &A79E
```

SIGMA 7

Durell's noisy shoot-em-up/eat-em-up/puzzle-bit has been given numerous lives and a start-at-any-level option. All thanks to **Mark Bennett** of Spondon. This is a Method 1 poke.

```
1 ' Sigma 7
2 ' by Mark Bennett
3 ' Amstrad Action   June 87
10 MODE 1
20 INPUT"Start Level (1-7) ";st
30 IF st<1 OR st>7 THEN 10
40 INPUT"How many Lives
   (1-255) ";x
50 IF x<1 OR x>255 THEN CLS:
   GOTO 40
60 INPUT"How many Bonus Lives
   (1-30) ";y
70 IF y<1 OR y>30 THEN CLS:
   GOTO 60
80 MODE 0:BORDER 0
90 FOR a=0 TO 15:READ i:INK a,i:
   NEXT
100 b=&BC00:c=&BD00
110 FOR a=1 TO 3:READ d:
   OUT (b),d
120 READ d:OUT (c),d:NEXT
130 OPENOUT"d":MEMORY &BFF
140 LOAD"!sigscn",&C000
150 LOAD"!main"
160 MODE 1:INK 1,18:INK 3,6
170 POKE &867C,0
180 POKE &867D,0
190 POKE &867E,0
200 POKE &2171,st-1
210 POKE &8680,x
220 POKE &8718,y
230 CALL &8236
240 DATA 0,6,1,26,24,3
250 DATA 2,13,25,14,26
260 DATA 11,3,18,3,6
270 DATA 1,32,2,43,6,24
```

Ikari Warriors

An interesting tip for Elite's shoot-em-up comes from **David Swindon** of Ayrshire.

When the prompts come up on screen for you to choose the controls, player one should choose keyboard and enter the joystick controls. Player two should choose joystick one. Now choose a two-player game. The two players will be controlled by the same joystick.

Move them to the edge of the screen until they've closed up into close formation. You can now move about blasting with twice the firepower.

IMPOSSABALL

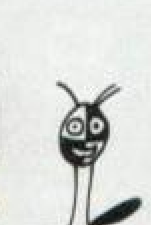
Here is a lengthy poke from **RpM** for the the disk version of Hewson's bouncing game. "A nasty protection scheme is the cause for such a long listing," he says. Still, the result is infinite lives and time. Type in the poke exactly as printed and save it to a disk *other* than the game disk. Insert Hewson's disk and run. The poke does *not* write to the disk so don't fret.

Incorporated in the listing is some pretty hefty error-checking: it's virtually impossaball (sorry) for an error to go undetected. However, you must type in exactly what you see – that includes line numbers, the reason being that the check routine works on line numbers. If you alter them the system will become confused.

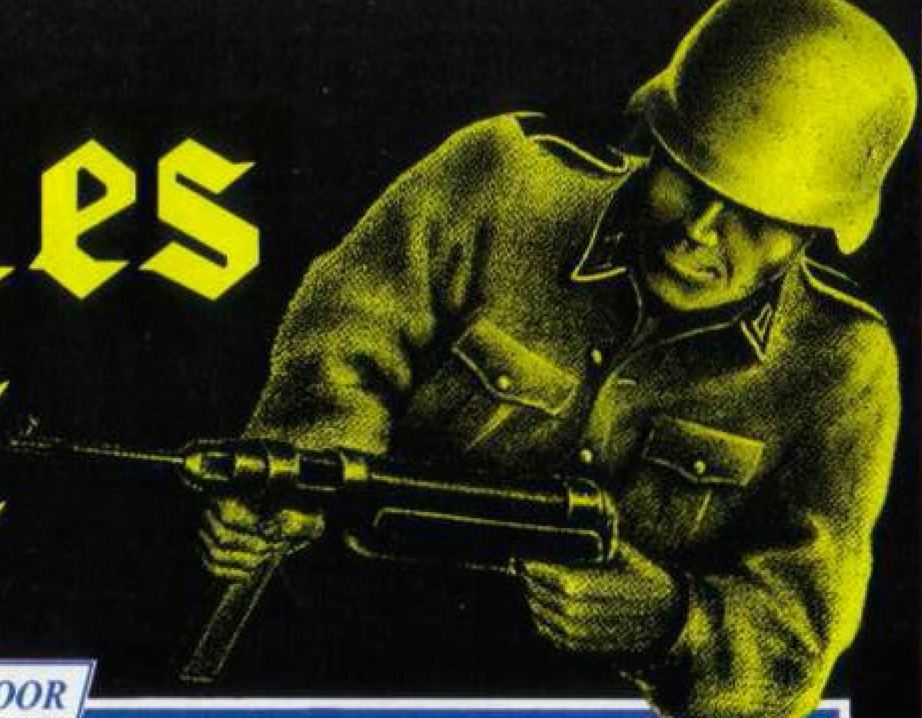
Once you've got the poke to work, you can alter line 870 to read: `SAVE "IMPOSPOK", B, &4000, &210: END`. Run the poke again. This will save a file `impospok.bin` onto your disk. Now enter the following line of Basic: `10 MEMORY &3FFF: LOAD "IMPOSPOK.BIN": CALL &4000` and save it as `impospok.bas`. Run this file when you want to cheat – it saves a lot of waiting, for the original listing has to read the data in every time you run it.

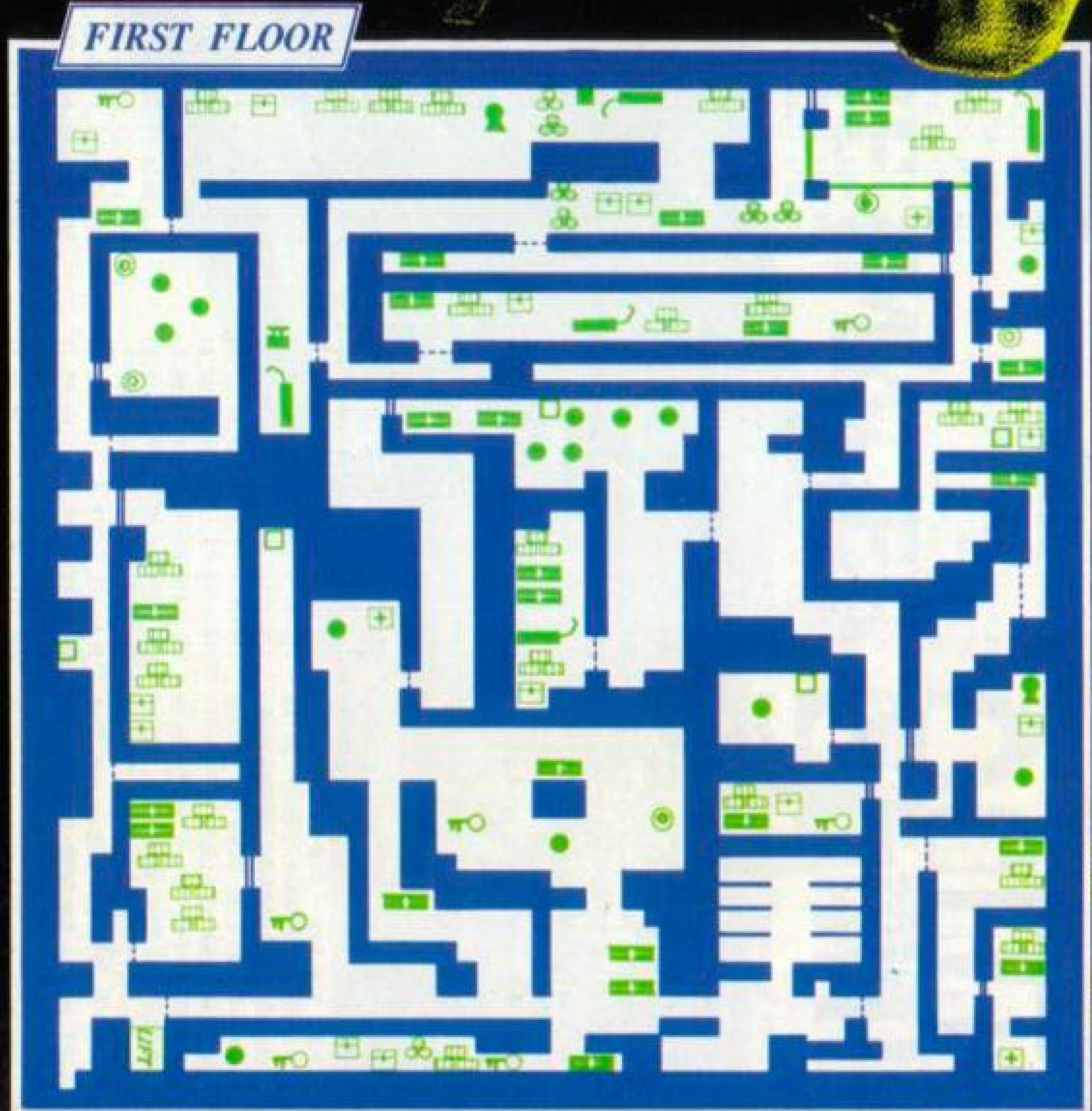
```
10 ' Impossaball -- disk
20 ' by RpM
30 ' Amstrad Action   June 87
40 MODE 2:PRINT"WAIT..."
50 PRINT"POKING "
60 DATA 2A,42,BE,06,19,AF,77
70 DATA 23,10,FC,11,00,90,CD
80 DATA 9B,BC,3E,01,CD,0E,BC
90 DATA 21,00,20,CD,E7,41,CD
100 DATA CA,41,7C,FE,3E,20,F2
110 DATA 7D,FE,7A,20,ED,21,00
120 DATA 20,11,40,40,CD,BE,41
130 DATA CD,72,BE,4C,4F,41,44
140 DATA 45,52,80,A4,80,52,50
150 DATA 4D,1B,6F,04,58,4E,E8
160 DATA 59,6B,60,8A,DC,B2,76
170 DATA C0,00,05,F9,C2,2D,A2
180 DATA D3,A5,93,E0,52,8C,1D
190 DATA 66,FD,5A,A5,C1,5B,4D
200 DATA 64,84,DE,52,4C,EB,34
210 DATA 07,2D,2C,80,2D,20,04
220 DATA 48,8B,02,39,FD,43,4F
230 DATA 6D,16,1E,0F,22,46,3B
240 DATA 3F,3E,3F,5F,46,50,2E
250 DATA 41,48,50,02,FA,0D,72
260 DATA 8A,1A,40,85,6B,FE,EF
270 DATA 67,53,51,2E,D1,40,3B
280 DATA C0,3F,0B,39,E4,AE,24
290 DATA 1E,16,67,92,0D,3D,0F
300 DATA 0D,FB,72,50,64,0B,DC
310 DATA AC,B7,4E,37,C5,5F,03
320 DATA 0F,2F,A3,AC,22,22,14
330 DATA 6D,8C,07,76,83,7A,45
340 DATA 7C,A7,E3,63,63,55,22
350 DATA CD,48,7E,32,4A,B6,31
360 DATA 15,2B,4E,9F,16,2C,FF
370 DATA 19,80,40,38,B0,41,15
380 DATA E6,92,98,D2,10,C4,58
390 DATA 8B,13,44,B0,DC,EA,40
400 DATA ED,11,96,E4,5A,11,C7
410 DATA 79,13,F1,8F,E9,5F,41
420 DATA 8D,7A,39,C9,5B,7F,54
430 DATA C4,F1,A8,39,E4,DD,3E
440 DATA 52,D7,0E,1B,4A,66,34
450 DATA 6C,E2,BF,21,8D,28,45
460 DATA 64,BA,48,BD,17,58,AC
470 DATA D8,E6,A4,E9,1D,92,F8
480 DATA 5E,1D,B2,8C,11,2C,FC
490 DATA 16,AA,32,AC,99,36,2C
500 DATA 21,2F,19,F1,FE,97,7B
510 DATA 57,84,20,60,32,4C,BC
520 DATA 3D,FE,00,38,A1,AF,CD
530 DATA 2E,BC,C9,21,5A,BC,E5
540 DATA 1A,08,13,ED,78,87,30
550 DATA FB,87,38,05,1A,0C,ED
560 DATA 79,0D,3E,06,3D,20,FD
570 DATA 08,3D,20,E8,ED,78,CB
580 DATA 67,28,0C,FE,C0,38,F6
590 DATA 0C,ED,78,77,23,0D,18
600 DATA EE,EB,E1,C9,01,7E,FA
610 DATA ED,79,C9,11,47,BC,CD
620 DATA FC,BB,CB,5E,C8,F1,18
630 DATA 89,02,4A,00,03,0F,00
640 DATA 00,01,08,09,46,00,00
650 DATA 00,41,01,42,2A,FF,02
660 DATA 07,00,FF,FF,FF,FF,00
670 DATA 00,00,00,00,00,00,00
680 DATA 00,00,00,00,00,00,00
690 DATA 00,00,00,00,00,06,FF
700 DATA 7E,4F,1A,A9,12,23,13
710 DATA 10,F7,C9,EB,21,00,00
720 DATA 22,E5,41,06,FF,1A,26
730 DATA 00,6F,D5,ED,5B,E5,41
740 DATA 19,22,E5,41,D1,13,10
750 DATA EF,C9,7A,3E,54,5D,ED
760 DATA 5F,FE,35,20,F8,06,FF
770 DATA ED,5F,12,13,10,FA,1B
780 DATA 1A,FE,63,20,EA,C9,F8
790 DATA 06,FF,ED,5F,12,13,10
800 DATA FA,1B,1A,FE,63,20,EA
810 DATA C9
820 start=60:count=0
830 FOR t=&4000 TO &420D
840 READ a$:GOSUB 890:LOCATE 8,2:
   PRINT "&";HEX$(t);",&";a$:z=
   VAL("&"+a$)
850 x=x+z:POKE t,z:NEXT
860 IF x<>55646 THEN 880
870 CALL &4000
880 PRINT"CHECKSUM ERROR":STOP
890 count=count+1:IF count=8 THEN
   count=1:start=start+10
900 IF LEN(a$)<>2 THEN f=1:
   GOTO 940
910 FOR lin=1 TO 2:b$=UPPER$(MID$
   (a$,lin,1))
920 IF INSTR("0123456789ABCDEF",
   b$)=0 THEN 940
930 SOUND 2^INT(RND*3),start+
   count,2,7:NEXT:RETURN
940 PRINT"ERROR in line";start;
   "DATA item";count;:IF f=1
   THEN PRINT"- DATA must be two
   characters in length" ELSE
   PRINT"- invalid character"
950 END
```

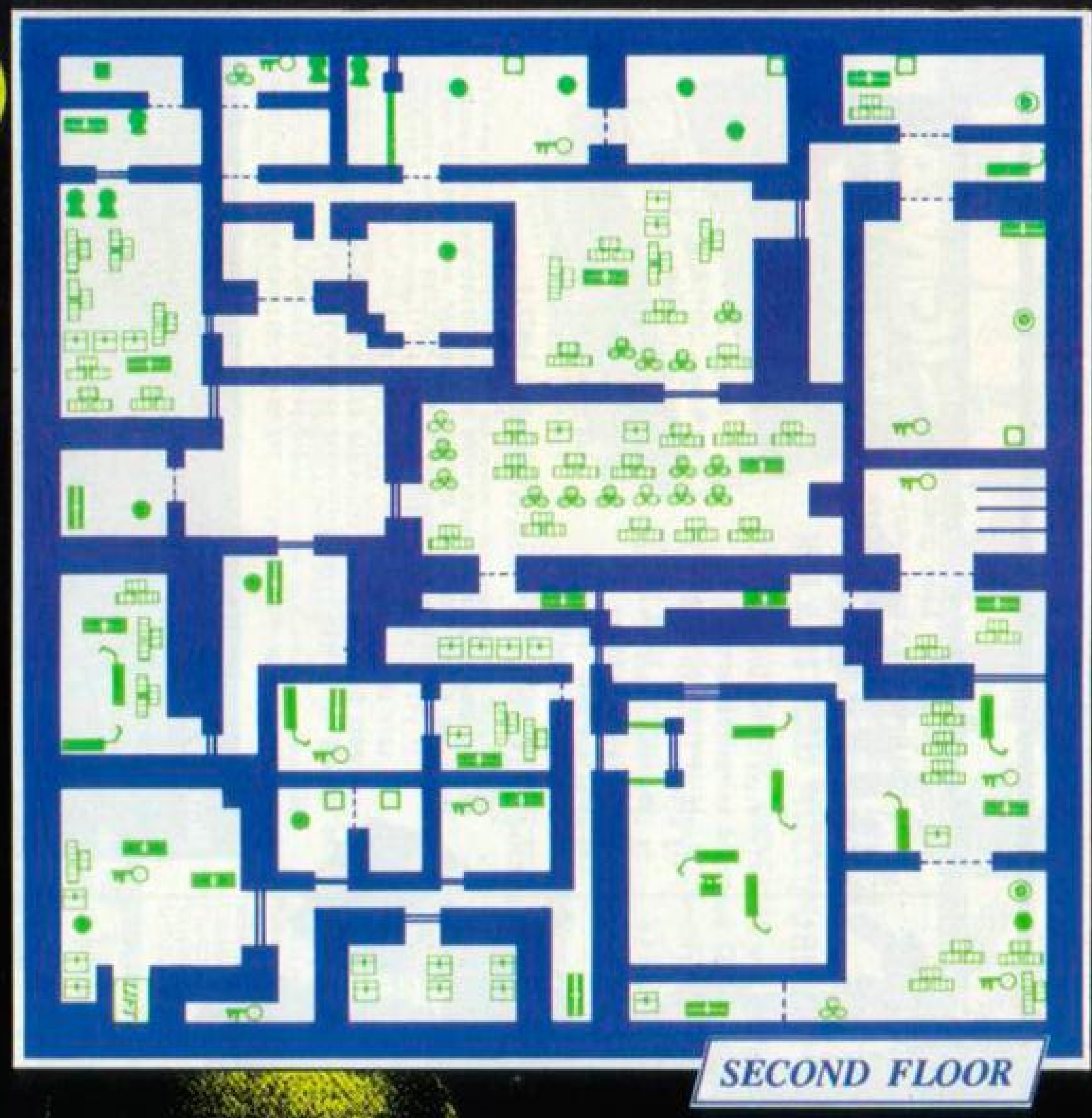
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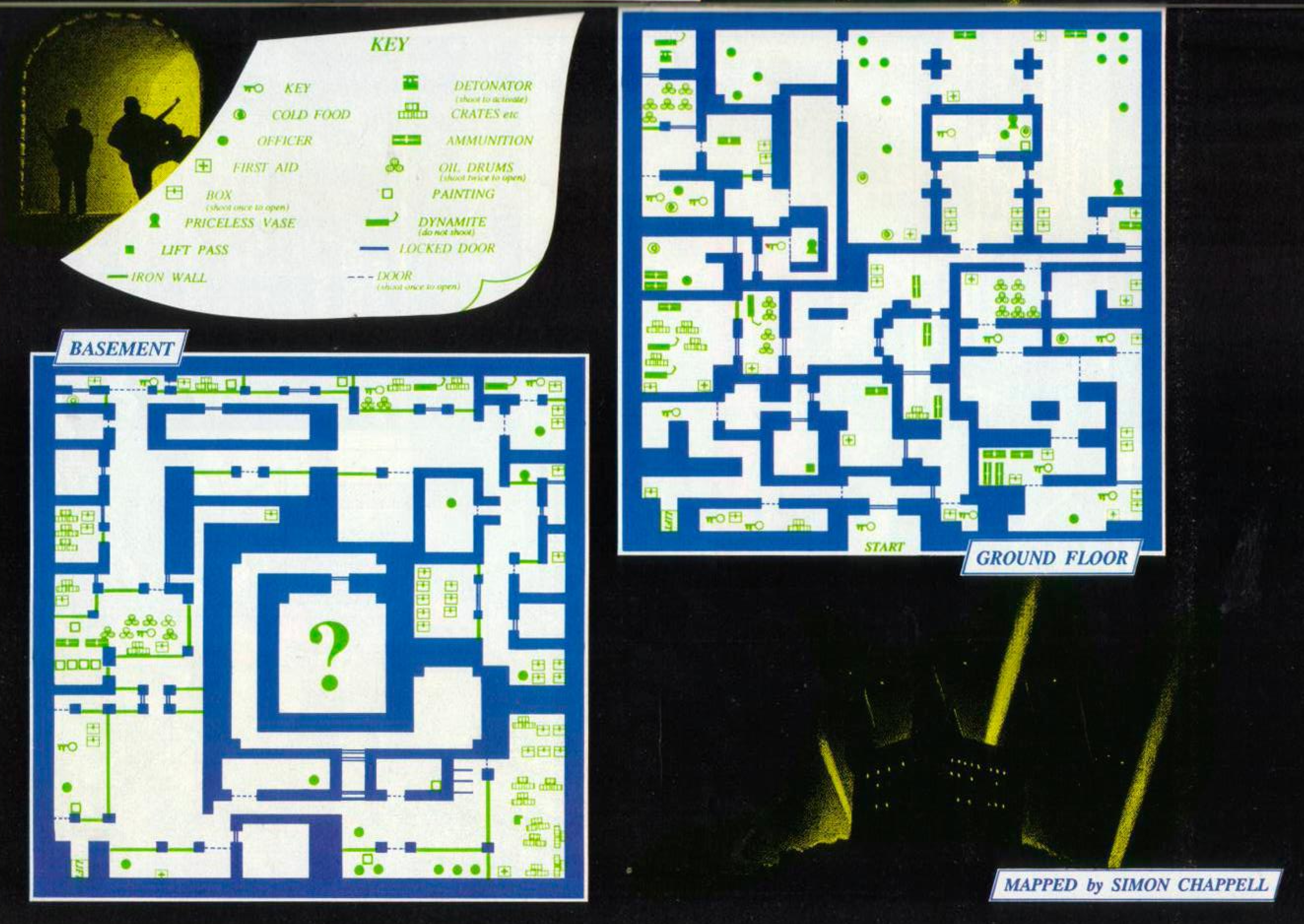
into the Eagles Nest










KEY
KEY
COLD FOOD
OFFICER
FIRST AID
BOX (shoot once to open)
PRICELESS VASE
LIFT PASS
IRON WALL
DETONATOR (shoot to activate)
CRATES etc
AMMUNITION
OIL DRUMS (shoot twice to open)
PAINTING
DYNAMITE (do not shoot)
LOCKED DOOR
DOOR (shoot once to open)
BASEMENT
?
LIFT
GROUND FLOOR
START
LIFT
MAPPED by SIMON CHAPPELL

Colin Ward enjoys hacking into Firebird loaders. To prove it, he has sent in infinite shields, infinite fuel and a poke to prevent your laser from over-heating; all this for *Startstrike II* – and it's even entered using Method 1.

```
1 ' Starstrike II
2 ' by Colin Ward
3 ' Amstrad Action    June 87
10 DATA 2a,3f,1d,22,38,bd,cd,37
20 DATA bd,af,32,a0,24,c3,5f,01
30 DATA c9,2a,38,bd,22,3f,1d,2a
40 DATA 01,bb,22,38,bd,21,00,1d
50 DATA 3e,c3,32,30,00,22,31,00
60 DATA 3e,f7,32,38,bc,c3,00,19
70 DATA c3,00,1d
80 MODE 1:MEMORY &18FF:BORDER 0
90 n=0:FOR x=&1000 TO &1032
100 READ a$:POKE x,VAL("&"+a$)
110 n=n+VAL("&"+a$):NEXT x
120 IF n<>4244 THEN PRINT"Error
   in Data!":END
130 LOAD"starstrike":CALL &1011
```

Singe's Castle

The disk version of *Escape from Singe's Castle* (or *Dragon's Lair II*) has been poked by **Mark Bennet** of Spondon. Just type in and run. You can start on any level and select the number of Dirks you'll need for the journey.

```
1 ' Singe's castle -- disk
2 ' by Mark Bennett
3 ' Amstrad Action   June 87
10 MODE 1:OPENOUT"d":MEMORY &2FF
20 LOAD"d12",&300
30 INPUT"Enter start level (1-8) ";s
40 IF s<1 OR s>8 THEN CLS:GOTO 30
50 POKE &780C,s-1
60 INPUT"number of lives (1-255) ";n
70 IF n<1 OR n>255 THEN CLS:GOTO 60
80 POKE &7C88,n:POKE &7C87,0
90 POKE &7C88,0:POKE &7C89,0
100 CALL &1B43
```

GAUNTLET

Paul Langton has some more tips for the US Gold game that apply more to two players than one.

1 Always work as a team – that way you'll have more chance of surviving.

2 Choose Thor and Merlin because this gives you the best balance of strength and magical power. Always let Merlin take the potions as he has the better magic power of the two.

3 There are three ways of dealing with Death: run away, use a potion to kill him, or shoot him while he attacks you since you get points for each shot.

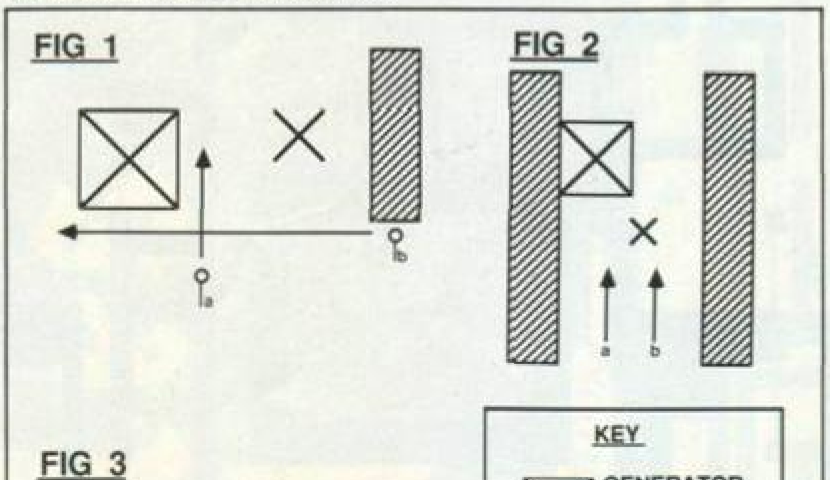
4 When fighting demons try to avoid the fireballs and trick them into shooting each other and the generators.

5 Destroy a Sorcerer generator as quickly as possible and then deal with the Sorcerers.

6 If one player dies always check the spot where it happened. There will be either a generator or keys. Shoot the generator or pick up the keys; there may be more than one there.

7 Always let the stronger player go first, ensuring prolonged survival of both.

8 In the three diagrams you can see how the two players (A and B) can cover each other in certain situations.



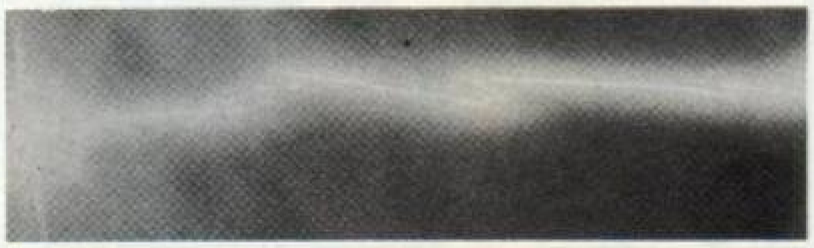
SHORT CIRCUIT

Short Circuit

The disk version of Ocean's film-licensed game has been given the treatment. **Nicholas** "I'm studying for my exams so won't be poking for a while" **Pavis** of Rugby is the man to blame. Type in the poke. Save it. Run it. If you are presented with a blank screen then inspect the listing, taking particular note of the data statements: there is no checksum, so take care when typing. Write-protect the disk just in case you made a boo-boo.

The poke removes those nasty trouser-dropping men and allows you to walk through sleeping sheep (don't jump on them, though). You don't know what I'm taking about? That's because these features are found in part two of the game which, incidentally, is reached by pressing the keys o-c-e-a-n simultaneously.

```
1 ' Short Circuit -- disk
2 ' by Nicholas Pavis
3 ' Amstrad Action   June 87
10 MODE 1:PRINT"INSERT SHORT
   CIRCUIT DISK & PRESS A KEY"
20 WHILE INKEY$="":WEND
40 MEMORY &2FFF:LOAD "disc.bin"
60 FOR a=0 TO 9:READ a$
70 POKE a+&3F13,VAL("&"+a$):NEXT
90 DATA 3e,71,32,76,00
100 DATA 3e,96,32,b4,00
110 FOR a=0 TO 48:read a$
120 POKE a+&BD00,VAL("&"+a$)
130 NEXT
140 DATA 21,8b,a1,36,0b,23
150 DATA 36,bd,c3,73,a1,21
160 DATA 81,02,36,80,23,36
170 DATA 0b,21,21,bd,11,80
180 DATA 0b,01,1f,00,ed,b0
190 DATA c3,0a,02,21,48,0d
200 DATA 36,00,23,36,00,21
210 DATA cf,0d,36,c9,c3,03
220 DATA 0c
230 FOR a=0 TO 127:read a$
240 POKE a+&5000,VAL("&"+a$)
250 NEXT
260 POKE &30,&C3
270 POKE &31,0
280 POKE &32,&BD
290 CALL &3EDA
300 DATA 42,55,47,7e,4f,46
310 DATA 46,3b,3b,fd,26,a0
320 DATA fd,2e,2e,fd,e3,01
330 DATA 2e,00,fd,09,fd,5d
340 DATA fd,54,6b,62,01,7a
350 DATA 04,ed,57,e4,00,bf
360 DATA ed,5f,ae,77,ed,a0
370 DATA e0,3b,3b,e8,ed,4b
380 DATA a7,a4,06,80,11,00
390 DATA a0,c5,1a,d5,11,28
400 DATA 05,91,21,80,a0,ae
410 DATA 77,23,1d,c2,41,a0
420 DATA 15,c2,41,a0,d1,13
430 DATA c1,4f,05,c2,37,a0
440 DATA 21,00,00,11,73,a1
450 DATA 06,1a,c5,1a,13,06
460 DATA 00,4f,09,c1,05,c2
470 DATA 5c,a0,11,78,08,a7
480 DATA ed,52,08,21,2e,a0
490 DATA 06,3d,36,c9,23,10
500 DATA fb,08,ca,98,a0,c3
510 DATA 9e,a1
```



How to win an ENTIRE ISSUE's Rave software

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Another excellent batch of pokes, maps and tips this month but somebody had to win and it's **Simon Chappell** for his *Into the Eagles Nest* map. Runners-up are **Guy Blackburn** for *Academy* tips, **Kevin Wallbank** for *Mercenary* map and tips, **Richard Hodges** for *Android 2, Mutant Monty, Monty on the Run, Zub* and *Pipeline II* pokes, **Mark Bennett** for *Sigma 7* and *Singe's Castle* pokes, and **Colin Ward** for *Thrust* and *Starstrike II* pokes.

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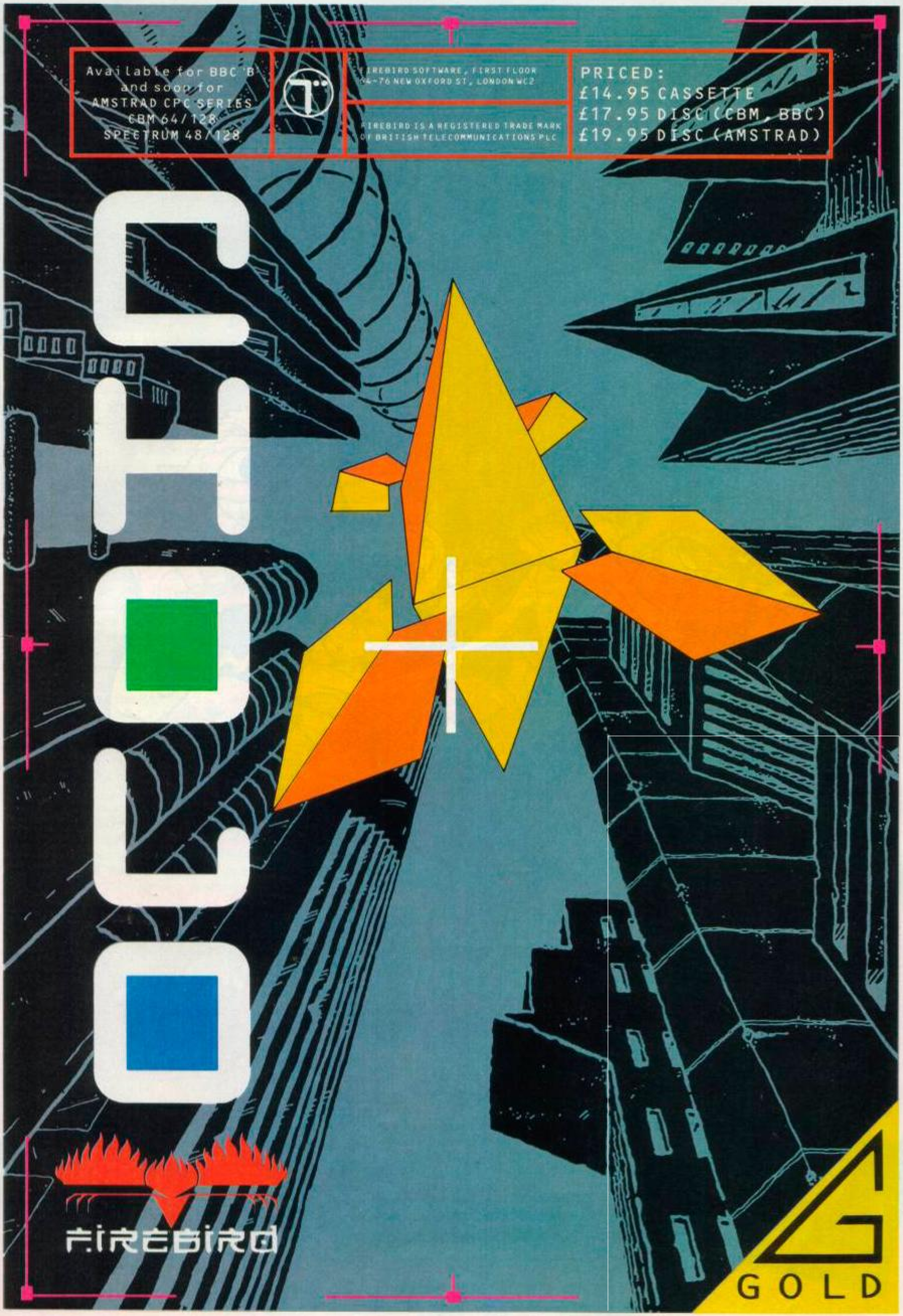
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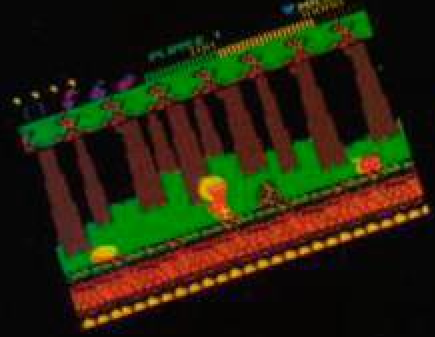
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THE PILGRIM

This month the Cowled Crusader sends luckless hobbits to their doom in Shadows of Mordor – the second part of Melbourne House's Lord of the Rings trilogy. He then manages to Escape from Khoshima with change from £2 in his pocket, amuses himself with Bestiary, and encounters a petite gamette all the way from jolie France. Abandon thy rod and staff awhiles, fellow Pilgrim, for if thou must give thyself over to the temptation of the Impetuous Software Purchase, thou hadst better read this column first!

Shadows of Mordor

Melbourne House, £8.95 (cassette only at present)

"From the team," shrieks the blurb for this game, "who brought you the hugely successful *Hobbit* and *Lord of the Rings*..."

At which point, fellow Pilgs, a good number of punters will immediately look for something else to play. Melbourne House may have a hard time of it, but if those people had received half the mail I have about *Lord of the Rings*, I rather think they'd hesitate before using it to advertise their latest release. It was slow, bug-ridden, and made a lot of enemies (although I personally garnered a modicum of enjoyment from it) and to call it "hugely successful" invokes, I would suggest, the old bar-of-soap-in-the-mouth routine.

So it was with some reservation I loaded up a preview copy of *Shadows of Mordor*. The game was not quite complete – there should be a few (very few) graphics in the final program, and perhaps one or two small textual changes, but otherwise this is what you'll get for your £8.95. Is it worth it?

The first feeling, if you've played *Lord of the Rings*, is one of deja-vu. You can choose whether to control Sam, or Frodo, or both. The 40-column screen is tidily laid out, with your inputs in a small box at the bottom and the story-line above. The game is interrupt-driven, to allow other characters to move about and so on, as evidence of which the input prompt disappears at regular intervals for a couple of seconds – disconcerting if you were just about to enter a command. Unfortunately there does not appear to be an input buffer, so any commands typed when the prompt is absent are lost.

The location descriptions are not as detailed as *LOR*, and the feeling is definitely of a smaller-scale, but more perfectly formed, game. As a result, gameplay is quicker and the program doesn't wait hours before reacting to your commands. Although the game claims to use the same system as *Lord of the Rings*, the improvement in speed seems to hint at lesser scale rather than increased efficiency.

Perhaps I'm wrong, but throughout the game I never had the feeling I was playing an "epic" adventure. This seems to be borne out by the documentation – the blurb claims a vocabulary of 800 words, but rather spoils this effect by then listing "all the verbs that the player will need to play the game...". Apart from direction commands, the list runs to a massive 55 verbs, some of which, it must be said, can be used in different ways. But still ... only 55? Perhaps that means there are 750 nouns!



Still, some of the verb forms are quite unusual and rarely seen in adventure games. I doubt whether you've often "jumped over" things, or "sprinkled on" things in a game before. Indeed, where sprinkling is concerned, I should hope not!

The plot of the game follows the storyline of the second book in the *Lord of the Rings* trilogy fairly closely. At the start of the game Sam and Frodo are alone with the Ring and a few possessions. They befriend Smeagol (the reformed Gollum) who aids them in their journey towards Mount Doom, which presumably we will encounter in part three if it ever comes out.

There is a considerable degree of character interaction in the game, invoked by the old `say to` command, though just using the character's name followed by a message in quotes seems to work as well. You can now give characters sequences of instructions rather than tell them what to do one at a time, and again the speed of response is a great improvement over *LOR*.

Veteran *Hobbit* players, however, will recall that Thorin had a habit of saying the most inappropriate things at the wrong moment, and was wont to sit down and sing about gold while all hell was breaking loose. In *Shadows* you get interchanges like this:

```
SAM "GIVE THE ROPE TO ME"
SAM SAYS "DEARIE ME, MAS'R FRODO, I DO HOPE THINGS
        ARE ALRIGHT AT HOME."
```

and sometimes rather alarmingly illogical responses like this:

```
THREATEN SMEAGOL WITH SWORD....
FRODO DOESN'T SEE ANY THREAD SMEAGOL TO ATTACK WITH.
```

Yes, well... I'm sure it all seems perfectly logical to the computer, but I think I must be missing out on something there...

Still, persistence in communication usually pays off, and provided a character is friendly he will do as you ask. Don't, however, trust Smeagol to carry your possessions – you may have a hard time getting them back.

So back to the price. Is it worth £8.95? Good question. With some excellent software around at £2, and some excellent software around at £25, what does price mean these days? All the Pilg can say is that he's glad to see that Melbourne House hasn't gone downhill after *LOR*. Perhaps it's worth £9 to hold the evidence in your hands...

Atmosphere 80% Interaction 84% Challenge 78%
***AA* rating 81%**



Escape from Khoshima

Atlantis, £1.99

Well, here's a nice little, tight little game. Written using *GAC*, it throws you into the midst of a Japanese prison-of-war camp, where the guards have all fallen asleep. Now's your chance!

Unfortunately, all around the compound lies impenetrable jungle. You must first scavenge the compound for useful items and then try your luck with the uncharted territory in your bid for freedom.

There really isn't much to say about this game. It's quite harmless, has some rather too obvious puzzles, and will give you as much value for your £2 as any other loose-change purchase I've played to date. It's not as original as *Imagination* (see *AA* 19) but it's got more atmosphere than *Spy Trek* (*AA* 11). Doubtless it will join many budget collections. 'Nuff said.

Atmosphere 68% Interaction 58% Challenge 65%
***AA* rating 75%**

Bestiary

Perry Williams (12 Godesdone Road, Cambridge, CB5 8HR), £2.50



Here's a rather charming home-brewed fantasy, created using *GAC* and not a little imagination by the author. There are, however, no graphics, but don't let that bother you because the text is colourful and the locations picturesque, so who needs more?

In true fairy-tale style a Blight has fallen upon the Land and you, as the youngest child of the King, must sally forth and find out the whys, wherefores and what-to-dos of the situation. Since you have spent most of your childhood reading books about the birds and the bees, your family reckon you are a bit of a no-hoper, so there's plenty of motivation to prove them wrong.

And of course it's the animals that come to your aid during the game – and in some most ingenious ways. You'll encounter snakes, owls and unicorns before you've got very far – not to mention the various witches and wizards who also render assistance.

This game has a ring of innocence and originality about it that the Pilg very much enjoyed. I didn't miss the pictures for a moment, and would advise nature-lovers to risk their £2.50 on this rather than on some other more visually attractive offerings I could mention... but won't.

Atmosphere 68% Interaction 58% Challenge 62%
***AA* rating 75%**

Harry and Harry – La Boîte de Rajmahal

Ere Informatique/Infogrames, £9.95, £14.95

Ooh la la! I'm not sure comment this petit gamette got into the Pilg's postbag, but it is most interessant.

Coming from the French company Ere Informatique, the prog is to be available in both English and French, though the Pilgy one received only a French version. Naturellement, however, the Pilg is fluent in this tongue and was soon PRENDSing and FRAPPEing all over the place.

Some geezer named Harry, it seems, has found out a way of opening Rajmahal's Box, a neat little package that, once opened, offers limitless possibilities. You, a complete and utter dirtwad (with apologies to DR and Quinch), are promenading along the rue when suddenly two heavies bounce out and duff you one. They have, it appears, mistaken you for the box geezer and obviously think you're a good investment.

You awake some hours later in a damp cellar and must escape to save the real prof and put the world to rights etc.

This disk-based game makes a lot of use of the detailed graphics already familiar to most readers from other French imports – especially those from Infogrames. The pics are occasionally windowed and overlaid, and are very nicely drawn. Occasional sound-effects (pistol shots, footsteps etc) also add to the atmosphere.

Where the game falls down is in the limited vocabulary (and I can't see how the English version could be any better), but this is to a great extent made up for by the pics and the occasional sense of humour. At one time, after I'd entered a particularly bad bit of French, the program announced `That's enough -- I'm going to short-circuit` and promptly reset the computer. At least that's how it appeared – I pressed a key and all was restored.

In fact the French seem to like playing little technical tricks in their games. For example, if you CAT the disk, you get a copyright message rather than a catalogue listing. While you play, graphics are constantly being loaded and displayed in different areas of the screen, the sound chip fizzes away, titles flash on and off the screen, witty responses come and go – all rather different to the staid British type-it-in-watch-the-screen-scroll-up-read-the-message format. More's the pity, says moi.

However, you do pay for the technical wizardry in terms of limited gameplay. I can't imagine this game will keep you busy for as long as – for example – *Silicon Dreams*. But if you're keen to show off your latest piece of sexy software to the nextdoor neighbours it will probably create more of an impression. I think a definitive opinion on this product will have to wait until I can play the English version and find out where, and for how much, this game is available. In the meantime, if it confronts you, take a close look.

(The London office of Infogrames tells us release date is future indéfini *– problems being overcome on English translation. Price as above. –Ed)*



Pilgrim's postbag ...

Pilg retrospective...

"Some of us lesser mortals," writes **TJ Avery** of Wool in Dorset, "are either still working on some of the earlier adventures or games that have not previously been covered in your pages, or simply can't afford to keep up with all the new stuff. So how about an occasional 'blast from the past'?"

And **Perry Williams** of Cambridge is all in support, arguing that "If the Infocom games really represent the best of what's attainable with the classic format, could you do a retrospective on them – giving a few notes on the setting, style and difficulty of each of them? You promised such a review when they were due to appear in December 1985, but when Softsel failed to deliver on time, it got postponed. Such a review would help those of us who are deterred from spending £25 on a game which we know little about except the title and its prestigious brand name."

These are just two of the many letters requesting the same sort of information, so now all you lucky lads and ladies out there can sit back and relax – the Pilg Primer of Pertinent Purchases will appear on these hallowed pages next month. *(Promises, promises! -Ed)* 'Twon't be just a list of games, but a comprehensive rundown of the Pilg's favourite (and not-so-favourite) adventure software, including a look at some of Infocom's lesser-known titles – in particular *Suspect*, the Pilg's favourite adventure, as well as some older curiosities that you may have missed out on if you're a recent Arnold owner.

Breaking the mould...

Back in February **Perry Williams**, who sent in *Bestiary* (reviewed in this issue), had this to say about the state of the art...

"I had to write after seeing your snorter on the state of adventuring in the February 1987 *Amstrad Action*.

"Damn right, I say! Maybe I'm getting old and jaded, but having seen a few adventures, I find a game has to offer something a bit special before I'm prepared to pay nearly £10 for it... There's too much of the same old business of moving objects around between locations. Certainly one of the things we need is more interaction with characters, preferably at a level beyond saying "hello" or trading objects.

"But dare I suggest that since parsing and vocabulary are such a problem, authors should also be looking for alternatives to the text command? Think of *KnightTyme*, which is completely driven by menus. Some people refuse to regard it as a 'real' adventure because it's graphical, but I reckon its puzzles and witty text make it a better adventure than many of the traditional variety.

"Then there are the Gargoyle games, and Wintersoft's *Ring of Darkness*, which use graphics to generate a vast playing area, placing a large emphasis on exploration. While arcade games have gone from *Ping-Pong* through *Space Invaders* to *Elite, Batman, and Spindizzy*, adventures have still barely gone beyond variations on the format laid down by Crowther and Woods [the authors of the original adventure].

"Somebody, somewhere, should be working on the large disk-based game that will break the mould. (*Mandragore* wasn't it!)"

No indeed, Perry, *Mandragore* was NOT it! But perhaps it's worth thinking why this situation has arisen. The thing about adventures is that – up to a point – they are very easy to program. The same goes (to a lesser extent) for graphics-based games. However, as soon as you attempt to do something really clever, the amount of time involved rises quite disproportionately to the results obtained. Hence most commercial organisations are unlikely to take the experimental road.

I rather suspect that if a world-beating, revolutionary piece of adventure-style software does emerge, it will be from the hands of one or perhaps two dedicated and highly imaginative individuals working in their attics for love rather than immediate profit. And that means that it probably won't happen until 16-bit machines dominate the home market – you can do more with them, quicker. And if you're up in the attic, that means you become more ambitious and are more likely to achieve a result. The days of 8-bit wonders on 48 or 64 or 128k machines are over, I'm afraid. But if you – or anyone else – can prove me wrong, I'd be delighted!

Hello, sailor!

"Your game reviews are getting better every issue..." grovels **Dave Brown** from the Portsmouth naval base. "Do you issue any free adventures for people completing a game in the fastest time? I loaded up *Imagination* and within two hours had completed it!".

Well, no free games, I'm afraid, Dave. The Pilg owns nothing but his rod and staff – and you can't ram those into a disk drive! I would, however, be interested to hear from fellow pilgs about their best completion times. My own, as I think I've reported before, is just under an hour for an Interceptor game.

Aaaaaaghghghgh!!!

"I wish your magazine came out more than once a month. Can't we have a weekly one?" -**Irene Allen**, Reading.

No! -Pilg.

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Clue Sniffing with the Pilg

A number of pitiful minions have written in wondering why so few of the Lords and Ladies can offer help on Infocom titles. The Pilg has no easy answer to this, other than to offer the following aromatic cluepot, brimming over with solutions to your stickiest problemettes... There shall be yet more next month!

Leather Goddesses of Phobos

Stuck in the cage? You'll have to eat to gather your strength – which means there has to be some food in the cage awaiting your arrival there...

The salesman... would appreciate a light.

The frog... Of course you must kiss it. To do that you'll need: lip-balm, pin, your hands, and a spot of shuteye.

Thorbast the Assassin... can forcibly be persuaded to be suicidal.

Ballyhoo

Getting past the turnstile... inhale helium for squeaky voice.

Elephant/White Wagon... small rodent causes stampede, revealing exit to White Wagon.

Lions... raise grate, put meat in passage, leave cage, lower grate.

Show cigarette case to Harry before showing it to Jenny.

Monkey on your back... licked banana will tempt it away.

The Pawn



Large boulder... tie hoe and rake together for effective lever.

Source of light... mix RGB.

Porter... craves whisky from Honest John.

Dragon... if he's too busy with hobbits, he won't give you a roasting. Later on you'll need some new clothes.

Lords & Ladies of Adventure

Here is a true sprinkling of nobility, fellow pilgs. These blue-blooded adventurers, with fire in their eyes and numerous games upon the shelves, are ready and waiting to offer you valuable assistance.

Remember, when making overtures to one of the Chosen Ones, to bow down before them, ensuring your forehead gently taps against their reinforced leather galoshes, address them as "O Mighty and Gracious One," avert your eyes, and – most important – hand them a self-addressed stamped envelope. Alternatively, should you have the temerity to phone them up, do so before 10 in the evening and after 10 in the morning.

Red Moon, Worm in Paradise, Price of Magick, Adventure Quest, Heroes of Karn, Jewels of Babylon, Message from Andromeda, Forest at the World's End, Subsunk, Seabase Delta, Spy Trek, Kentilla
Bob Weeks, 9A Lydney Close, Paulsgrove, Portsmouth, Hants, PO6 3QG

Adventure Quest, Beerhunter, Bored of the Rings, Castle Dracula, Colossal Adventure, Dungeon Adventure, Emerald Isle, Erik the Viking, Espionage Island, Forest at World's End, Heroes of Karn, Hobbit, Inca Curse, Jewels of Babylon, Lord of the Rings, Lords of Time, Message from Andromeda, Mordens Quest, Monsters of Murdac, Mountain Palace Adventure, Neverending Story, Planet of Death, Price of Magick, Red Moon, Return to Eden, Robin of Sherwood, Robin of Sherlock, Rebel Planet, Seas of Blood, Ship of Doom, Snowball, Souls of Darkon, Spytrek, The Lost Phirious, Wzrlord, Worm in Paradise, Brawn Free, Trial of Arnold Blackwood, Gremlins, Arnold Goes to Somewhere Else, Wise andFool of Arnold Blackwood, Time Search, Terror molinos
Peter Brown, 57 Ropers Avenue, Chingford, London, E4 9EG

Imagination, Seabase Delta, Subsunk, Colossal Adventure, Heroes of Karn, Mordon's Quest
LRO(T) Brown, D. D158443P, No 3 The Parade, HM Naval Base, Portsmouth, Hants

Dracula, The Boggit, After Shock, Warlord, Heroes of Karn, Jewels of Babylon, The Hobbit, Forest at the World's End, Adventure Quest, Colossal Adventure
John Vincent, 62 Hillside, Stowmarket, Suffolk, IP14 2BA

Heavy on the Magick, Dun Darach, Tir-Na-Nog, Fairlight, Jewels of Darkness, Price of Magik, Red Moon
Irene Allen, 15 Seventh Avenue, Garston Park, Tilehurst, Reading, Berks

Emerald Isle, Return to Eden, Worm in Paradise, Price of Magik, Vera Cruz Affair, Questprobe III, Lord of the Rings, Hobbit, Boggit, Robin of Sherlock, Souls of Darkon, Aftershock, Warlord, Jewels of Babylon, Dracula, Terrormolinos, Mordon's Wuest, Classic Adventure, Mindshadow, Seabase Delta, Subsunk, Spy-Trek, Imagination, Necris Dome, Nythyhel, Theseus, Miami Vice, The Hermitage, Teacher Trouble, Knight Tyme, Spellbound, Kentilla, Swords and Sorcery, the Fourth Protocl, The Mural, Microman, Galaxias, Enchanter
Tyron Austin, 13 Warner Place, Llanelli, Dyfed, SA15 3NW

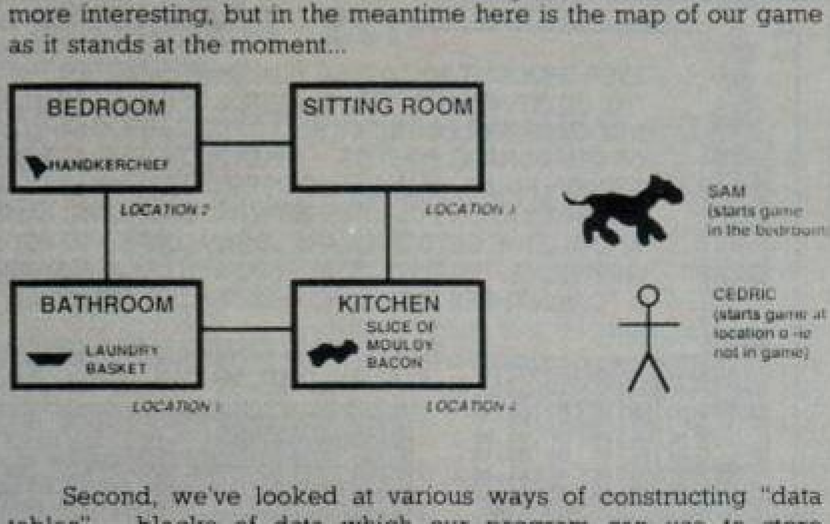
Enchanter, Mordon's Quest, Forest At World's End, Jewels of Babylon, Heroes of Karn, Message from Andromeda, Warlord, Worm in Paradise, Red Moon, Marsport, Dun Darach, Adventure land, Classic Adventure, The Hobbit, Sphynx Adventure, Neverending Story, Souls of Darkon, Robin of Sherwood, Fantasia Diamond, Spellbound, Knight Tyme, Seabase Delta, Emerald Isle, Return to Eden, The Boggit, Bugsy, Wild Bunch
Tim Gurney, Thanescroft Cottage, Lords Hill Shamley Green, Guildford, Surrey, GU5 0TJ

Programming with the Pilg...

PART 5

This month the Cowled Crusader pauses to allow readers to catch their breath... We're sadly a little short of space, but it seems a good point at which to consolidate the different points we've covered so far before proceeding. Next month begins the actual program, so let's make sure we all know where we are before we start tapping away on the keys.

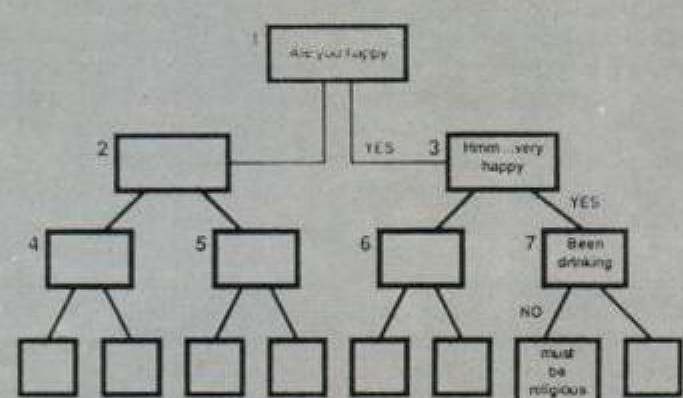
First, we've created our map, introduced a couple of characters and three objects, all of which have been used to illustrate various different ways of storing information using "bits" rather than "bytes". We'll be bringing in a few other objects later to make the game more interesting, but in the meantime here is the map of our game as it stands at the moment...



Second, we've looked at various ways of constructing "data tables" – blocks of data which our program can use to store information about characters, objects and so on in an efficient way.

By "efficient" we mean space-saving, easily-manipulated and comprehensive. In doing this we've also discussed what *sort* of information we need to store – that is, what the program will need to know about the objects in the game in order to give our "adventureworld" a degree of credibility and flexibility.

Finally, in the last issue, we touched briefly on the question of making decisions in a game. Do we use dozens of IF statements? Or can we do better? The piece ended with a short program for you to type in, with the injunction that you try to fathom out how it works. Next month we'll give the complete answer to this as we begin the programming process itself, but if you're finding the previous month's listing a little problematic, just have a look at the diagram below. Check it over, then refer back to the listing and see if light starts dawning...





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This is the publication you've been clamouring for. It gives you under a single cover all the Cheat Mode pages and most of the game-maps printed in the first 16 issues of *Amstrad Action*. Literally hundreds of pokes, tips, mini-articles and maps are included. And to help you find your way around there's a special index allowing you to turn instantly to the game you need help on.

The book is printed on high-quality paper with a glossy colour cover. It looks good, and we think you'll love it. If you can't master a game after wading (excuse the pun!) through this little lot, you're beyond hope...

MASTERING MACHINE CODE ON YOUR AMSTRAD

Ready to make the plunge? This book is for people who want to go straight to the heart of their Amstrad and unleash the speed and power of machine code programming. Authors Jeff Naylor and Diane Rogers have aimed it at the beginner, while at the same time offering various programs and routines of interest to more advanced machine code programmers. These show how to write a database program, how boost the graphics, how to produce graphs.

There are also chapters on sorting and on how to use RSX commands.

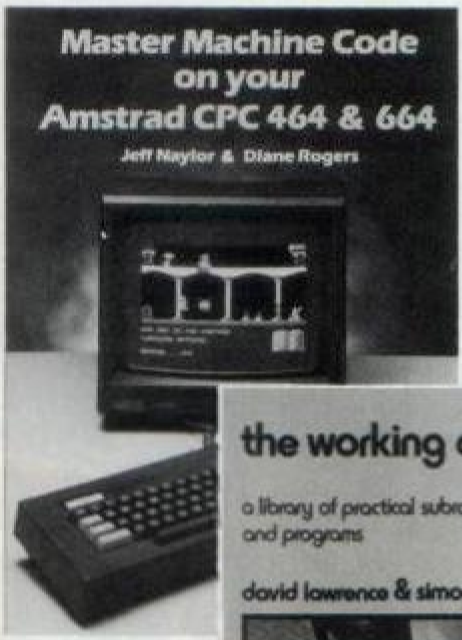
To get the most out of the book you may need to buy an Assembler program to allow you to input machine code programs more easily, although the book can stand alone as a good introduction to the subject. 146 pages plus index.

BACK ISSUES

£1.35 or £1.85 each including P&P

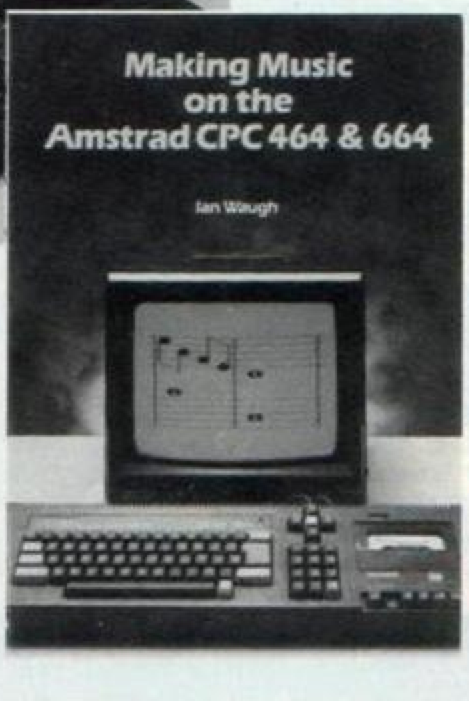
If you're a more recent convert to Amstrad Action, why not catch up on some of the great issues you missed. The back issues still in stock at time of going to press are listed on the order form.

The three higher price issues include a cover mounted cassette packed with good software. Issue 4 included two Ocean games, Issue 8 featured The Covenant from PSS and issue 16 had level two of Firebird's Druid plus a host of other smaller programs.









THE WORKING AMSTRAD

This book is basically a cleverly-presented library of type-in programs for people who want to put their computer to good use.

Programs included are Graph, Pie-Chart, four separate clock and timer utilities, 3D bar chart, customised character set, high resolution designs, music, unifile – a personal powerful filing system, Name and number dictionary, Text-ed, MultiQ, Banker, and Accountant.

The working of each program is explained in detail, so you should be able to tailor them to your own requirements. And what makes the book particularly good is that each program is divided into separately explained modules – you automatically learn structured programming as you go along.

216 pages of high-quality material.

AMSTRAD ADVANCED PROGRAMMING TECHNIQUES

If you think it's time you got a bit deeper into programming your CPC you should get hold of this book by experienced computer author David Lawrence. Using dozens of working programs and utilities, he shows how to develope serious applications on the 464, 664 and 6128.

Chapter and section headings include: Modular programming, Debugging, Interpreting error messages, Strings, Garbage collection, Inputting information, INKEY$ and timed response, Error trapping, Storing and Retrieving, Making use of EOF, The principles of Sorting, The bubble sort, The delayed replacement sort, The Shell-Metzner sort, Data structures, Storing directly in free memory, Pointer strings, The Black Hole problem, Binary searching, Pure searching.

152 pages with index.

MAKING MUSIC ON THE AMSTRAD

Ian Waugh's 181 page book is aimed at allowing you to take full advantage of the Amstrad's sophisticated sound facility. Chapter and section headings include: What is Music?, The Sound Command, Programming Scales and Ptiches, ENV and ENT – the Volume and Tone Envelopes, Zaps and Zings and other things, Playing the Amstrad, Making Micro Music, Producing echoes, Delay effects, White noise, Simple sound effects, Designing a rhythm unit, Soundscapes, The Amstrad synthesizer, Altering the bass riff, Saving the tune, Using chords, Improving the melody, Sing-along-a-matic.

There are numerous program listings and examples to show you the way. Great value for any CPC owner with an interest in Sound.

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A 64K memory upgrade will allow your 464 or 664 to run many of the programs which can currently run only on a 6128, while the 256K upgrade offers 6128 owners vast extra storage. They simply plug into the back of your computer and are used in conjunction with the supplied "bank-switching" software.

The Silicon Disc System allows you to set up a 64K drive B (or C) which will operate faster than an ordinary disc drive (although data must be transferred off it before the computer is switched off.) The System operates from AMSDOS or CPM 2.2 (but not CPM Plus), and if you have a 464, you will also need a normal disc drive connected.

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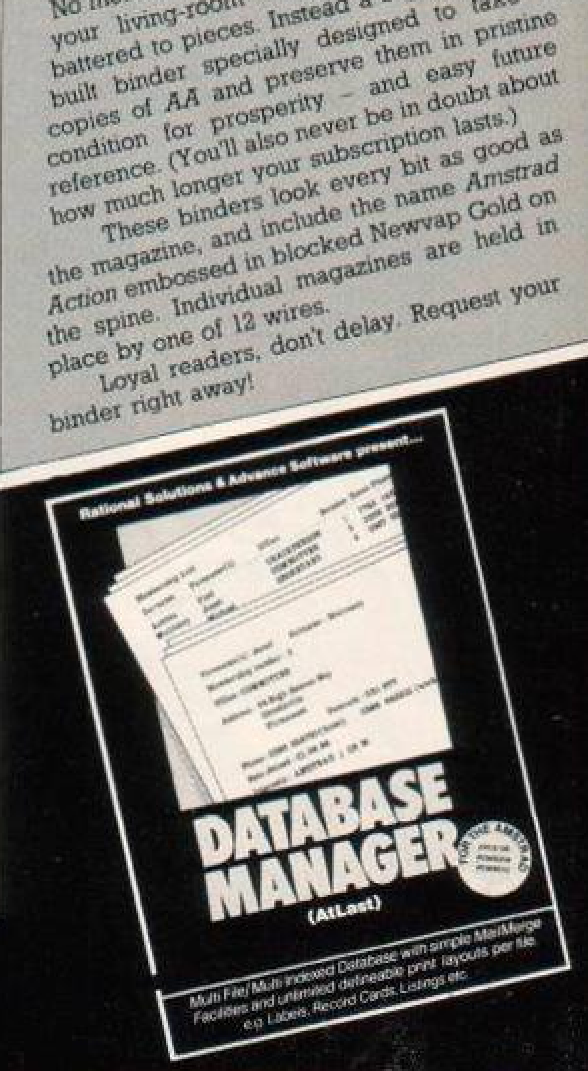
This program from Advance Software and Rational Solutions is probably the best database you can buy for a 6128. It's fast, full-featured, powerful and well-tailored to the needs of the machine.

It's also extremely flexible, so you can customize it to a huge range of situations where information needs to be organised and quickly recalled or analysed. An address file, a customer list, a record of your massive LP collection. Whatever.

Features include:

- Easy layout of forms using the built-in text editor.
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- You can set up relationships between data in different files – very powerful facility!
- Records can be sorted – you can index up to five fields in each file.
- Powerful data-transfer utility, making it easy to upgrade to this program.
- Nine field types, including normal alpha-numeric, three numeric types, date, hours-minutes-seconds, automatic serial numbering.
- Detailed manual and sample data supplied.

All in all, a wonderful way of putting your Amstrad 6128 to serious use.



Tír na nòg

EXCLUSIVE!

AVAILABLE ONLY THROUGH AA

Tir Na Nog is exclusively available through *Amstrad Action*. It's had only limited distribution before through the now-defunct *Amtix* magazine. We're offering it at £3 less than it was there, both on cassette and disk.

AGOG AT TIR NA NOG

The history and the legend of the Celtic land of youth
Only £6.95 cassette, £10.95 disk

Gargoyle Games has been responsible for one of the most original, testing and absorbing series of arcade adventures ever. *Dun Darach*, *Marsport* and *Heavy on the Magick* had us all wandering around delightfully atmospheric worlds using gloriously animated, large characters. *Tir Na Nog* (the land of youth) was the prequel to all these and started off the Gargoyle legends but it's never been released for the Amstrad before.

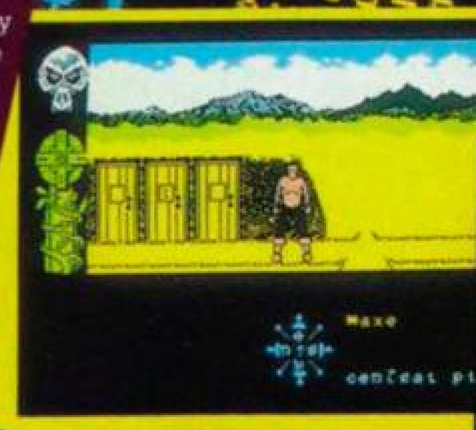
The game stars Cuchulainn, the same strapping character that appears in *Dun Darach* and walks about with his hair flapping in the breeze and real purpose in his stride. You can't die in *Tir Na Nog* because Cuchulainn has already left the land of the living. Like *Dun Darach* this is a complicated map of pathways and locations that feature some great graphic backgrounds.

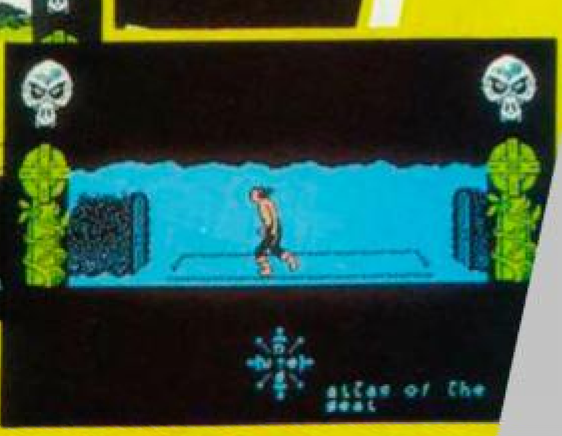


Cuch has to explore his world in search of the fragments of the Seal of Calum. He has to find them, put them back together and activate the Seal. There are many puzzles that have to be solved on the way and lots of objects to find and creatures to meet. There's plenty of puzzling to do over which objects to use and how to deal with each character.

The game is large and complicated and will provide many hours of absorbing action. There's an essential save-game feature for recording your progress and some atmospheric background notes that include a partial map of the game. You'll marvel at the graphics and animation for a while and soon be totally hooked by the adventure. This is a must for anyone who likes Gargoyle's games – and you can buy it only here.

To get hold of this hot property will cost you only £6.95 on cassette or £10.95 on disk – a real bargain if ever there was one. To order the game just use the mail-order coupon on page 88. You'll never regret it.





A great arcade adventure at a remarkable price

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For details of special offers, see previous pages

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Amstrad Action's unique service can supply all the software you need

Much of this magazine is dedicated to telling you in detail about the fantastic range of software available on the Amstrad CPC computers. But we can do more than inform you about it. We can deliver it direct to your home. All it takes is a few moments of decision making on your part, a visit to the post box or a quick phone call, and your choice of software arrives, like magic, on your doormat.

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2. We try to be as accurate as we can with details of price, compatibility and disc availability, but cannot accept liability for any errors that creep in.

3. The fact that a program is listed on this page does not always guarantee it is available now. We sometimes are able to review software BEFORE it has actually been put on general release. If there is likely to be a significant delay in supplying a program we will notify you.

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REAR VIEW

Sugarman saves stranded superheroes? Silly signature sequel. *(Somebody get a mop – Ed)*

PILLOCKS?!

Virgin's managing director Nick Alexander recently picked up an award for Photograph Involving Leading Lights Of Computer Knowledge. That was for 1986 so fo course they had to come up with an equally silly pic for 1987 and here it is. It celebrates their re-release of *FA Cup*. Nick Alexander, by the way, is the one in the middle with a beer belly about to be put in the back of the net by Ian Rush.



WHO FOOLS WHOM

Some people have the weirdest sense of humour. Witness a story that appeared on Micronet's news pages on 1 April and stayed there for several days afterwards (tut-tut). It told of a games console Amstrad was developing around a 68000 processor, the one used in the Atari ST and Amiga.

The machine was supposedly priced at £99.95 and the codename for the project at Brentwood was Cliff. It wasn't fair cricket as an April Fool because it's far too believable.

So how about it, Mr Sugar, Sir?

YOURS ILLEGIBLY 2

One eagle-eyed reader spotted and identified the signature in last month's Rear View and phoned to claim his non-existent prize – well it was worth a try anyway. We also received this little note:

"Sir, We would like to offer our suggestion with 100% confidence for 'Yours illegibly,' Rear View issue 20. The signature belongs to Martin E Hodges (of Software Marketing Ltd, Electric Studio). The first time we saw the signature we too were baffled and even now watch with great amazement as he does it! Yours knowingly, Karen and Liz."

We don't know who Karen and Liz are, but they obviously work with (used to, after this, maybe!) Mr Hodges. We think it's an indicator of his age like the rings on a tree trunk. So tell us, ladies, what does he do for an encore? **AA**



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